

# TISD INNOVATION CENTER BLDG. 4 RENOVATION



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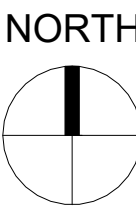
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Chief Financial Officer  
General Counsel  
Assistant Superintendent of Secondary Schools  
Assistant Superintendent of Elementary Schools  
Assistant Superintendent of Human Talent  
Assistant Superintendent of Accountability  
Assistant Superintendent of Development and Engagement



SITE LOCATION MAP



2025-03-31

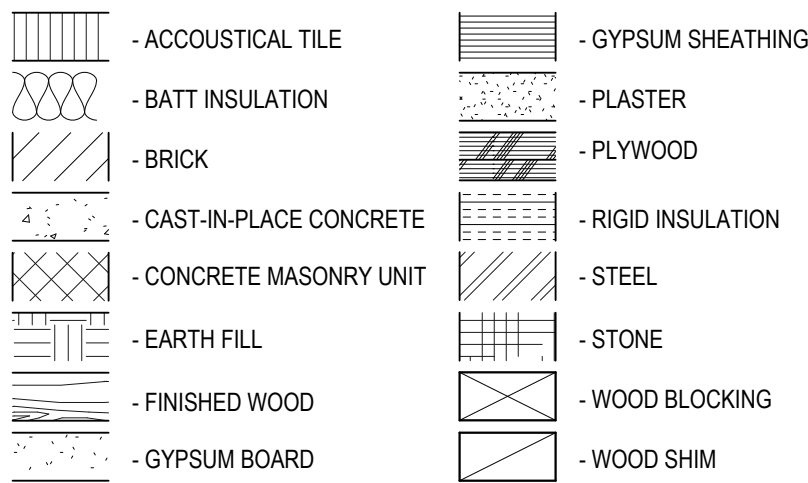
PROJECT NO. 202415  
DATE: 2025-03-31

DATE	ISSUE	▲
ISSUE	PROPOSAL AND PERMIT	

SET NO.

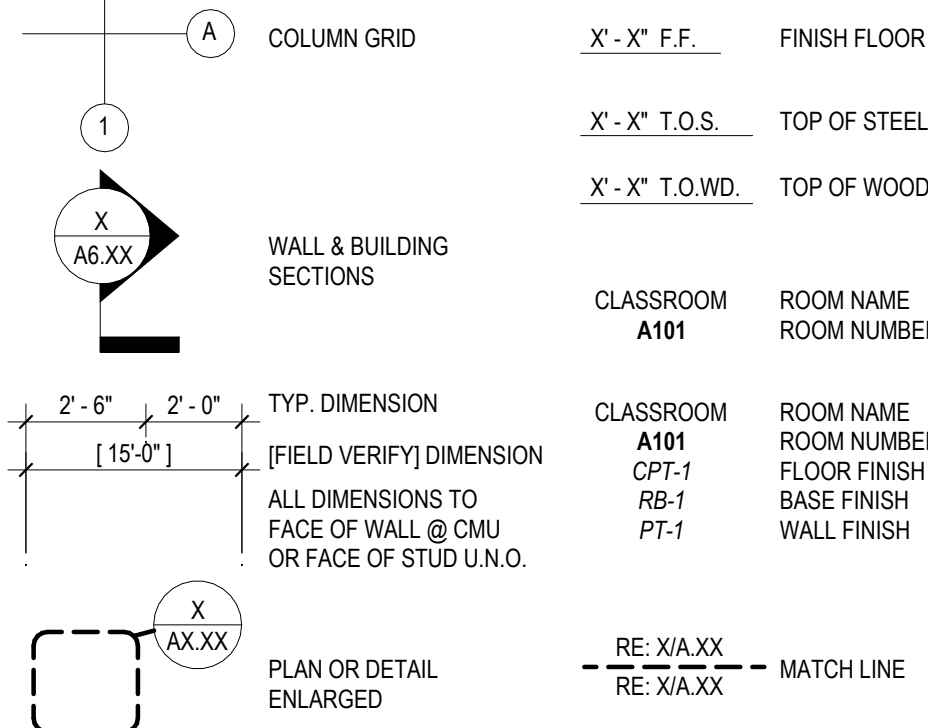
TISD INNOVATION CENTER BLDG. 4 RENOVATION





## 18 GEN - DRAWING LEGEND

3/4" = 1'-0"



## 15 GEN - DRAWING CONVENTIONS

1/4" = 1'-0"

### 221. ASSEMBLY AREAS

NUMBER OF SEATS	MIN NUMBER OF REQ'D WHEELCHAIR SPACES
4 - 25	1
26 - 50	2
51 - 150	3
151 - 300	4
301 - 500	5
501 - 5000	6 PLUS 1 FOR EACH 150, OR FRACTION THEREOF, BETWEEN 501 THROUGH 5000
5001 AND OVER	36 PLUS 1 FOR EACH 200, OR FRACTION THEREOF, OVER 5000

TABLE 221.2.1. NUMBER OF WHEELCHAIR SPACES IN ASSEMBLY AREAS

## 14 ADA - 221 ASSEMBLY AREA

1/4" = 1'-0"

### 219. ASSISTED LISTENING SYSTEMS

CAPACITY OF SEATING IN ASSEMBLY AREA	MIN NUMBER OF REQ'D RECEIVERS	MIN NUMBER OF REQ'D RECEIVERS REQ'D TO BE HEARING-AID COMPATIBLE
50 OR LESS	2	2
51 - 200	2 PLUS 1 PER 25 SEATS OVER 50 SEATS	2
201 - 500	2 PLUS 1 PER 25 SEATS OVER 50 SEATS	1 PER 4 RECEIVERS
501 - 1000	20 PLUS 1 PER 33 SEATS OVER 500 SEATS	1 PER 4 RECEIVERS
1001 - 2000	35 PLUS 1 PER 50 SEATS OVER 1000 SEATS	1 PER 4 RECEIVERS
2001 AND OVER	65 PLUS 1 PER 100 SEATS OVER 2000 SEATS	1 PER 4 RECEIVERS

TABLE 219.3. RECEIVERS FOR ASSISTIVE LISTENING SYSTEMS

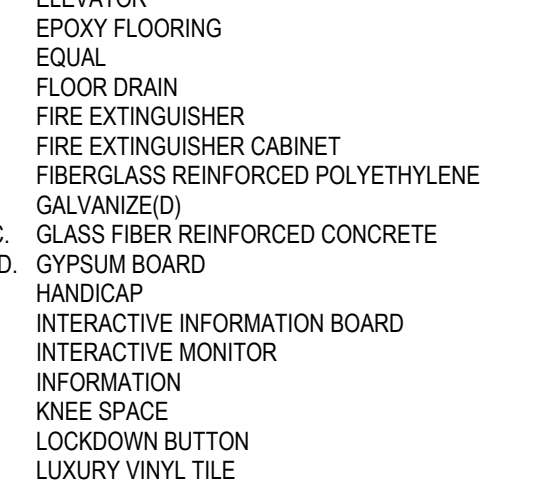
## 13 ADA - 219 ASSISTIVE LISTENING SYSTEMS

1/4" = 1'-0"

	ACCESSIBLE MOUNTING HEIGHTS BY AGE GROUP			
	ADULT	AGE: 9 - 12	AGE: 5 - 8	AGE: 2 - 3
<b>REACH RANGES</b>				
HIGH (MAX)	48"	44"	40"	36"
LOW (MIN)	15"	18"	15"	20"
<b>RAMP AND STAIRS</b>				
TOP OF HANDRAIL GRIPPING SURFACE	34" - 38"	SECOND SET 28" MAX	SECOND SET 28" MAX	SECOND SET 28" MAX
<b>ELEVATORS</b>				
EMERGENCY CONTROL BUTTONS	35" TO C.L.			
CONTROL BUTTONS	48" MAX			
<b>DRINKING FOUNTAINS &amp; WATER COOLERS</b>				
HEIGHT TO SPOUT WHEELCHAIR STANDING	36" - 43"	30" MAX	30" MAX	30" MAX
<b>WATER CLOSETS</b>				
CENTERLINE - WALL HUNG	16" - 18"	15" - 18"	12" - 15"	12"
TOP OF SEAT	17" - 19"	15" - 17"	12" - 15"	11" - 12"
GRAB BARS	23" - 36"	25" - 29"	20" - 25"	18" - 20"
DISPENSER HEIGHT	15" MIN	17" - 19"	14" - 17"	14"
<b>URINALS</b>				
CENTERLINE - WALL HUNG	15" MIN			
TOP OF RIM	17" MAX			
FLUSH CONTROLS	46" MAX	44" MAX		
<b>LAVATORIES AND SINKS</b>				
RIM OR COUNTER SURFACE	34" MAX	31" MAX	31" MAX	
KNEE CLEARANCE	PER 306.2	24" MIN	24" MIN	
<b>SHOWER STALLS</b>				
TOP OF SEAT	17" - 19"	15" - 17"	20" - 25"	18" - 20"
GRAB BARS	33" - 36"	25" - 27"		
HAND SHOWER HEAD MOUNTING	59" MIN HOSE			
<b>FIXED OR BUILT-IN SEATING &amp; TABLES</b>				
HIGHEST OPERABLE PART	28" - 34"	26" - 30"	26" - 30"	
<b>DRESSING AND FITTING ROOMS</b>				
HANDICAP BENCH MOUNT	17" - 19"			
TOP OF RIM	20" - 24"			
FLUSH CONTROLS	42" MIN			
<b>FOOD SERVICE LINES</b>				
TOP OF TRY SLIDE				
<b>EMERGENCY EYEWASH</b>				
ACTUATOR				

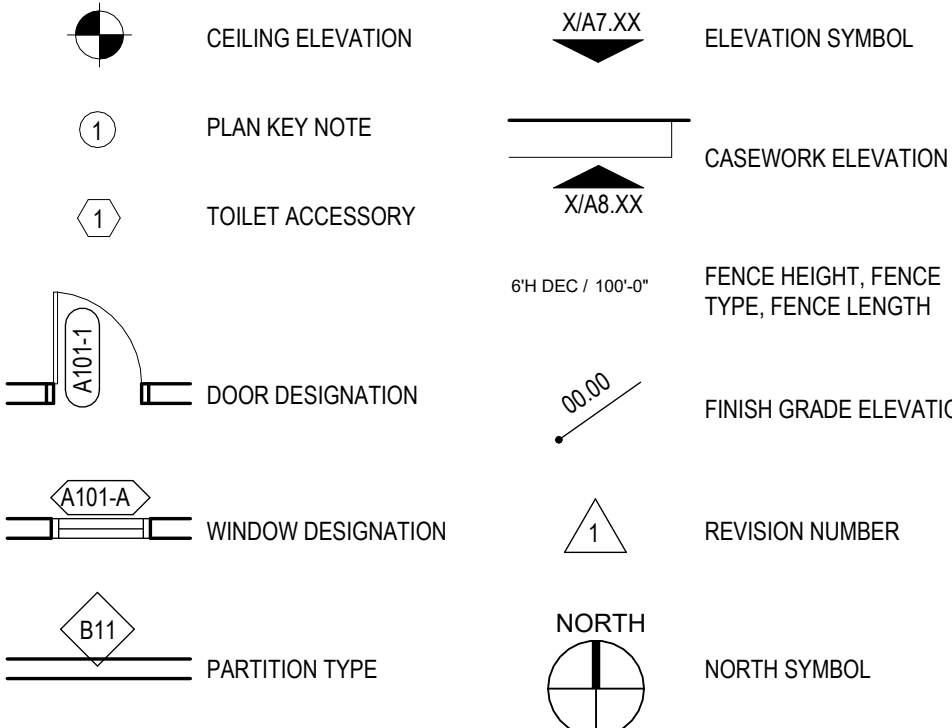
## 6 ADA - ACCESS. MNT. HTS BY AGE

1/4" = 1'-0"



## 17 GEN - ABBREVIATIONS

1/4" = 1'-0"



### 404. DOORS, DOORWAYS, AND GATES

FIG. 404.2.3. CLEAR WIDTH OF DOORWAYS

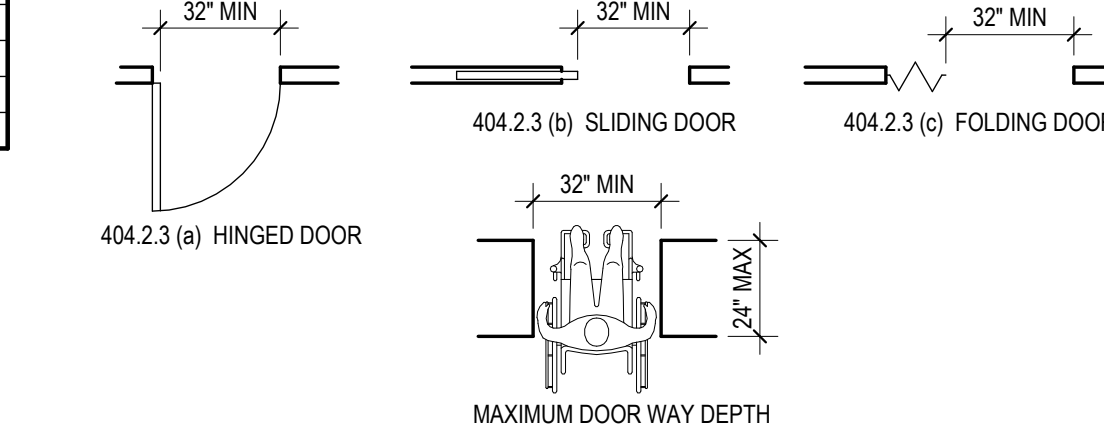
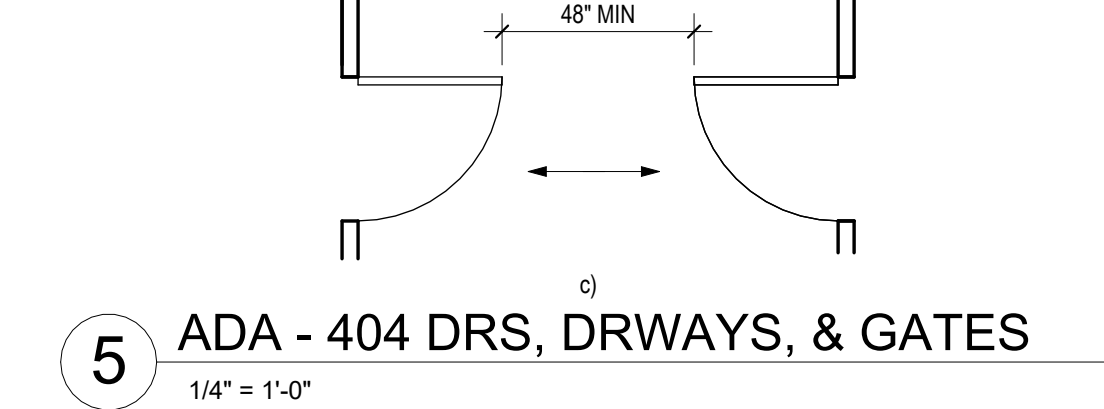
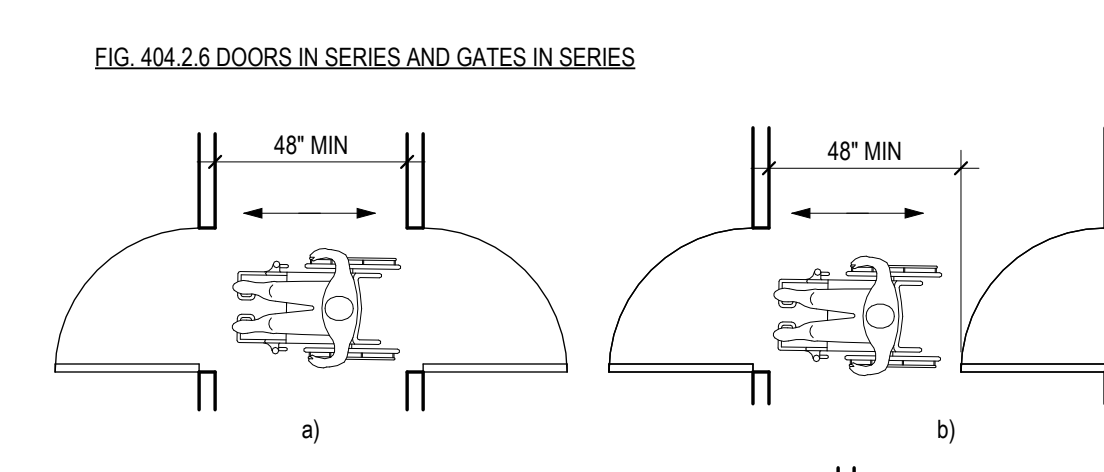
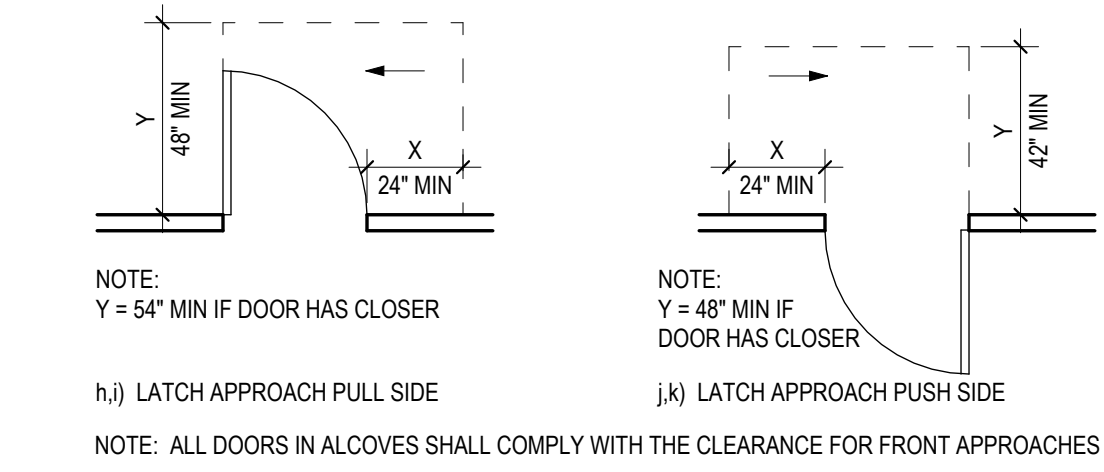
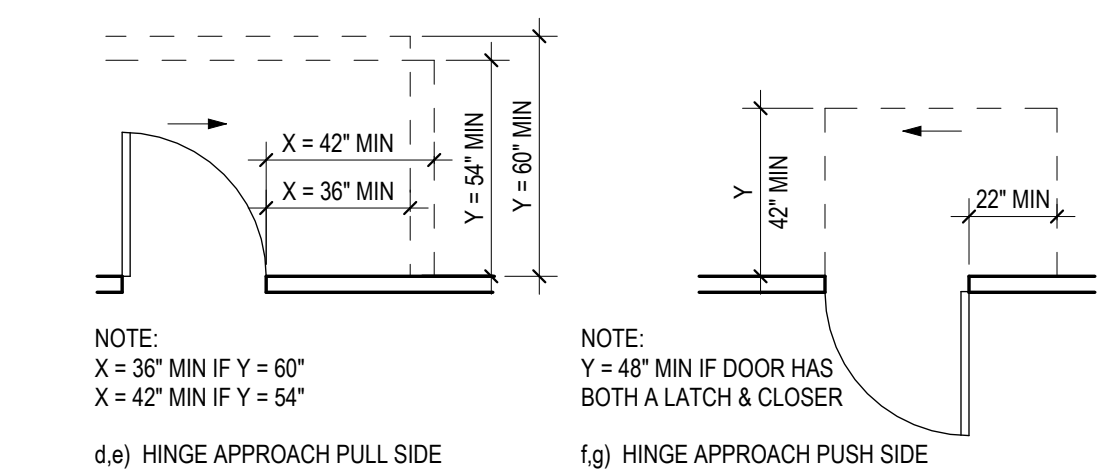
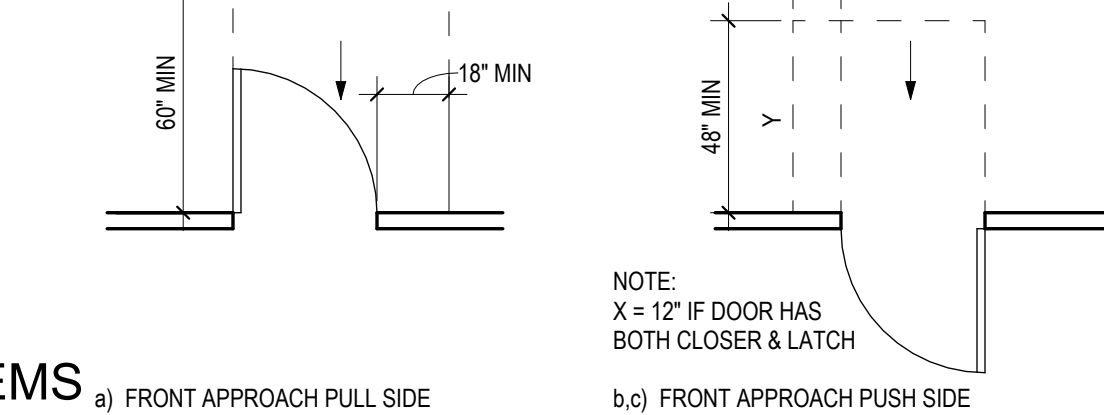


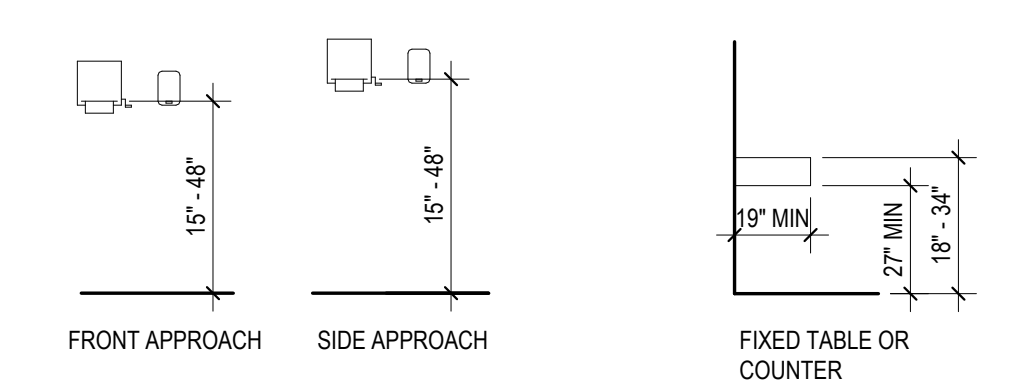
FIG. 404.2.4.1. MANEUVERING CLEARANCES AT MANUAL SWINGING DOORS AND GATES



## 5 ADA - 404 DRS, DRWAYS, & GATES

1/4" = 1'-0"

### 603. TOILET AND BATHING ROOMS



### 604. WATER CLOSETS AND TOILET COMPARTMENTS

FIG. 604.3.1. SIZE OF CLEARANCES AT WATER CLOSETS

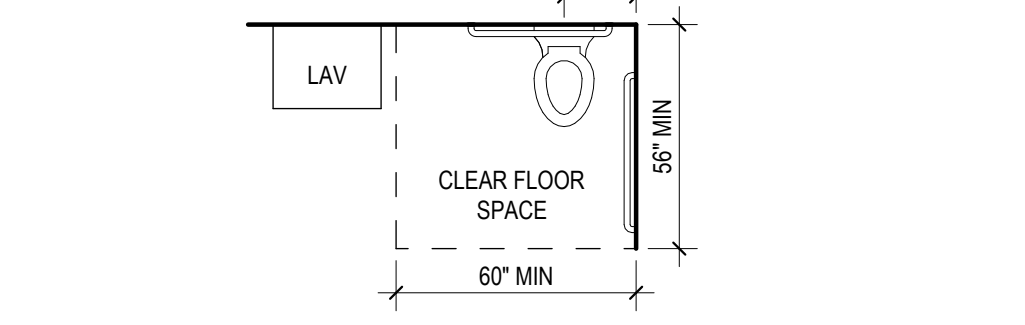


FIG. 604.8.1. WHEELCHAIR ACCESSIBLE TOILET COMPARTMENT DOORS

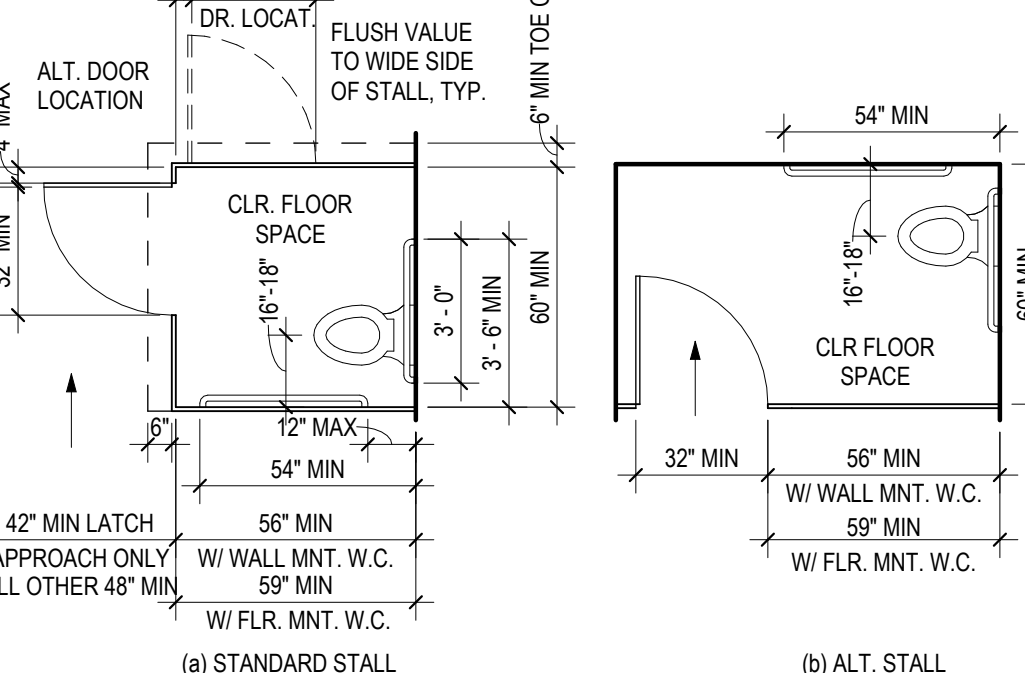


FIG. 604.8.2. AMBULATORY ACCESSIBLE TOILET COMPARTMENT

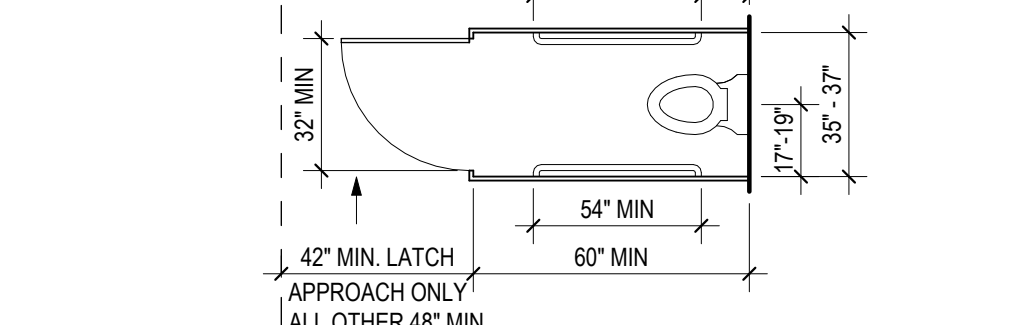
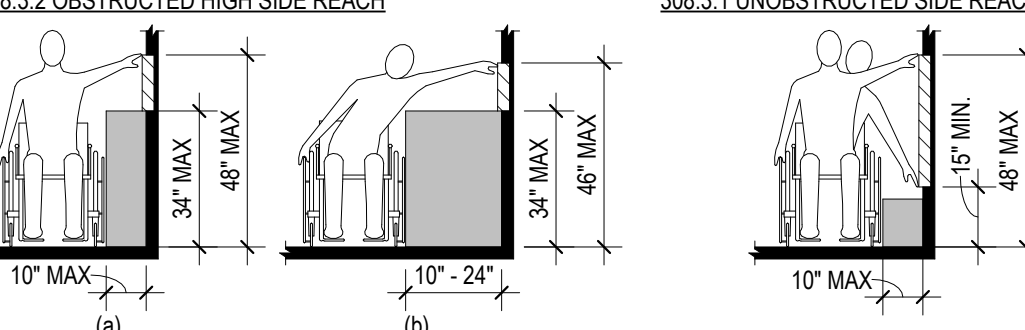
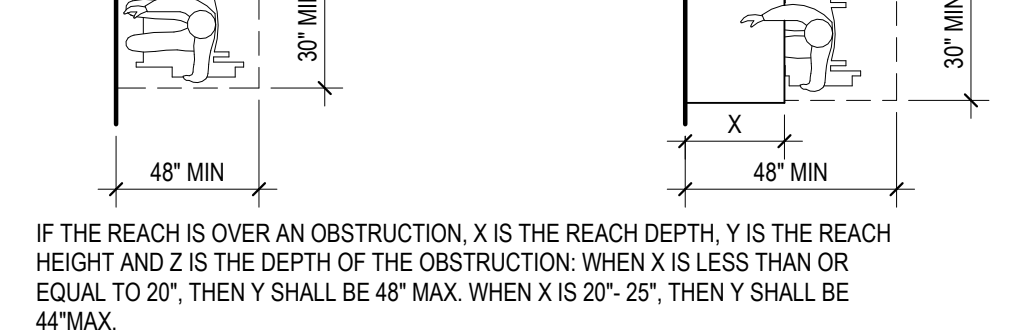
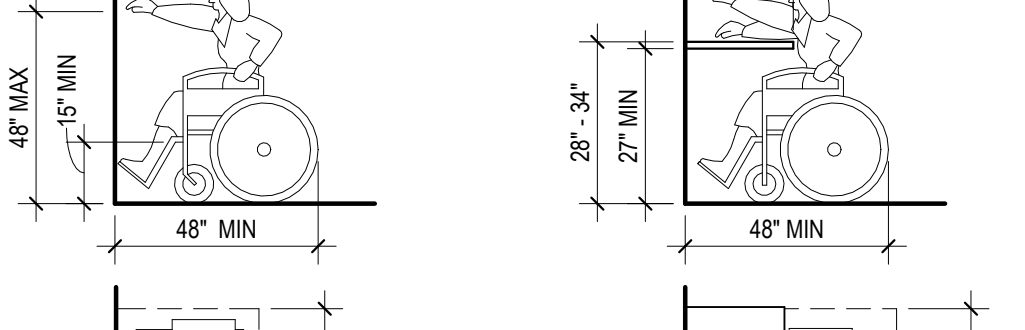
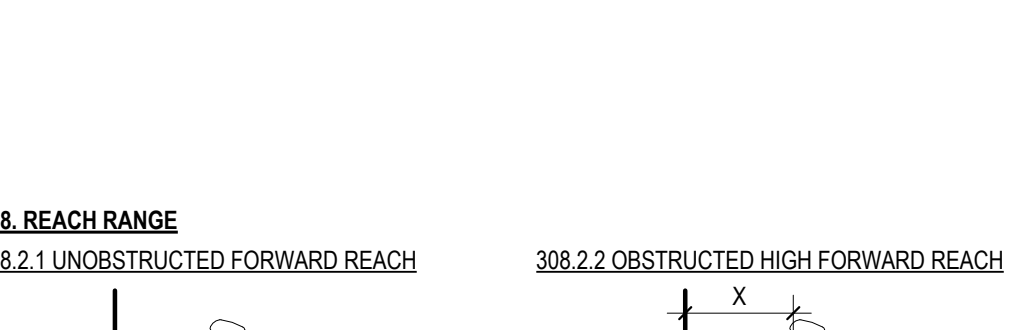
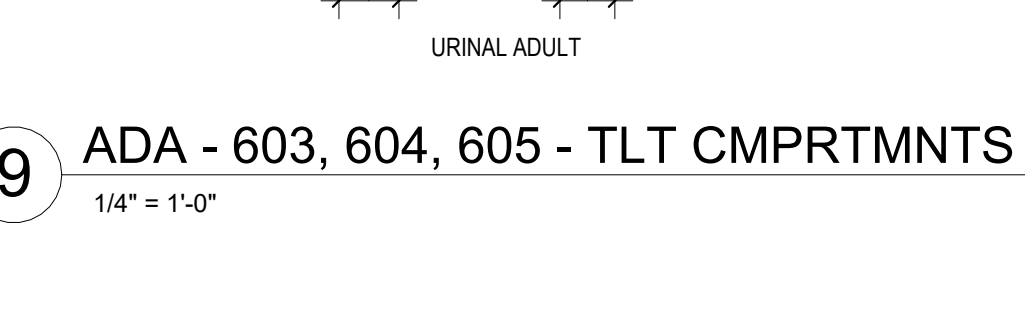
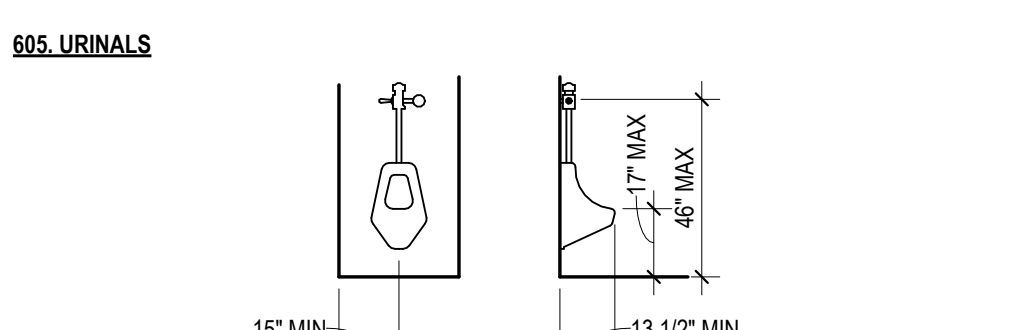
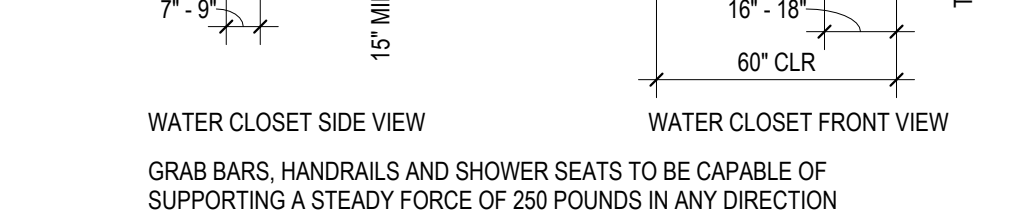
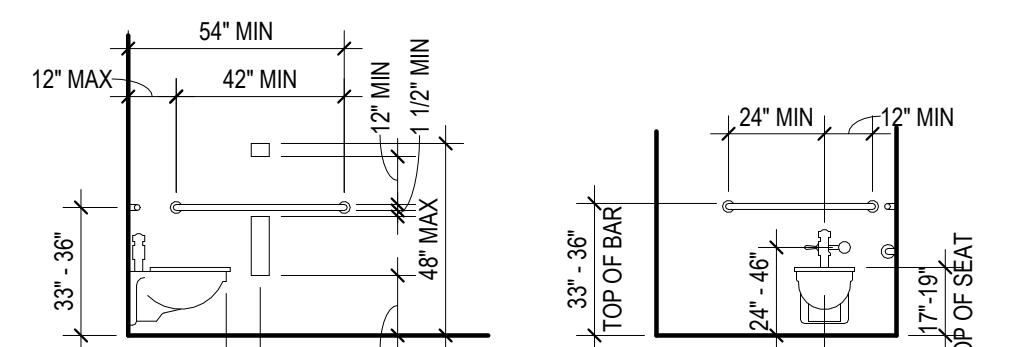


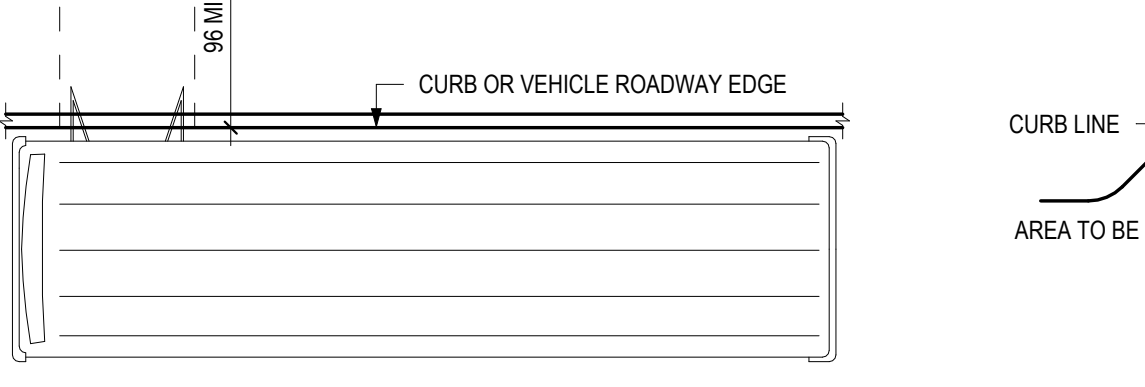
FIG. 604.8.3. WATER CLOSET DOORS



## 4 ADA - 308 REACH RANGE

1/4" = 1'-0"

### 503. PARKING AND PASSENGER LOADING ZONES



## 16 ADA - 503 PARKING & PASSENGER LOADING ZONES

1/4" = 1'-0"

### 505. HANDRAILS

FIG. 505.4. HANDRAIL HEIGHT

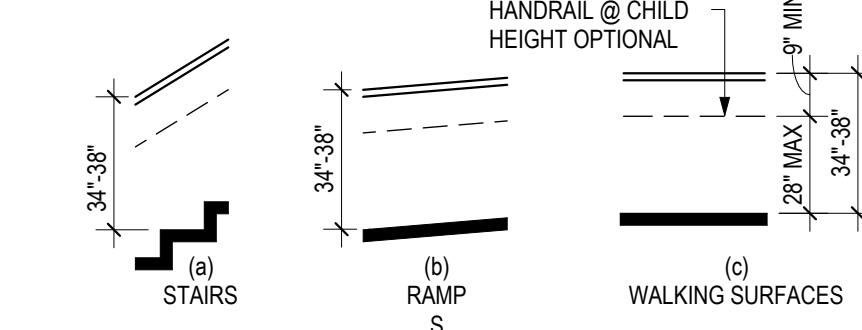


FIG. 505.10.1. TOP AND BOTTOM HANDRAIL EXTENSION AT RAMPS

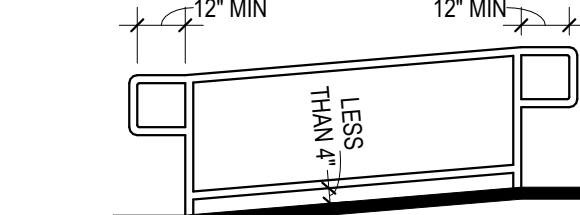
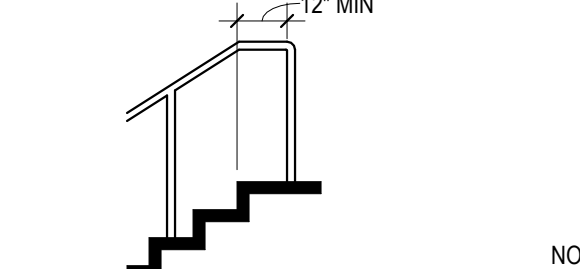


FIG. 505.10.2. TOP HANDRAIL EXTENSION AT STAIRS



## 12 ADA - 505 HANDRAILS

1/4" = 1'-0"

### 307. PROTRUDING OBJECTS

FIG. 307.2. LIMITS OF PROTRUDING OBJECTS

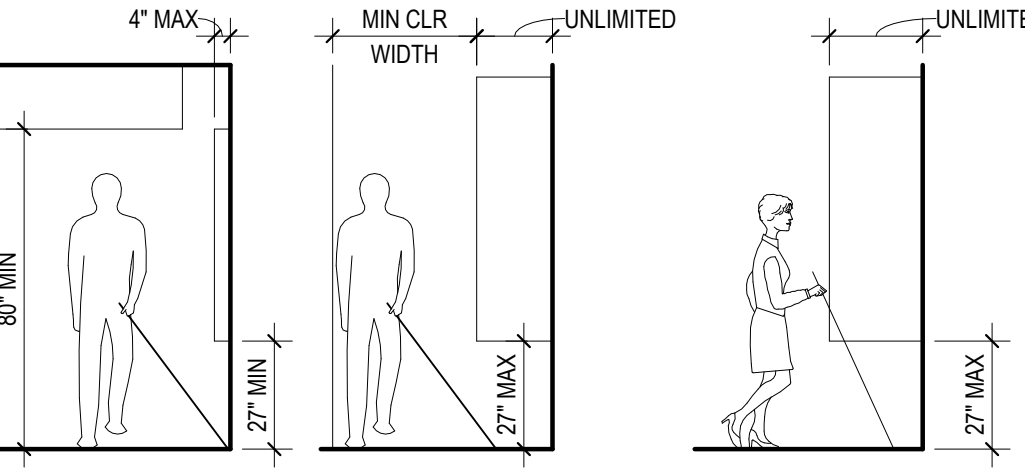


FIG. 307.3(a). POST MOUNTED PROTRUDING OBJECTS

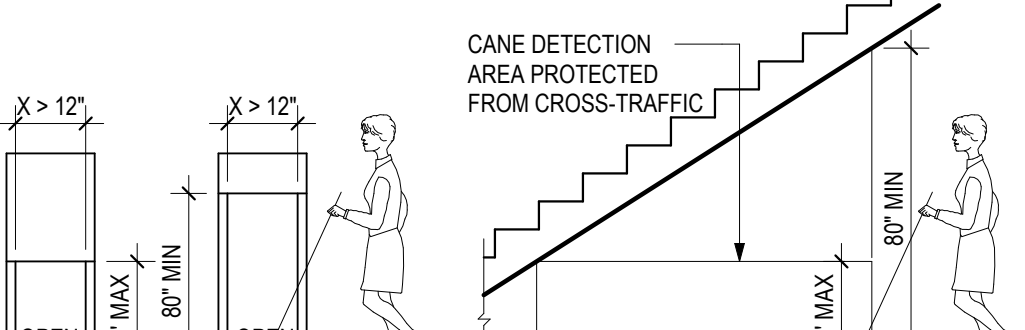
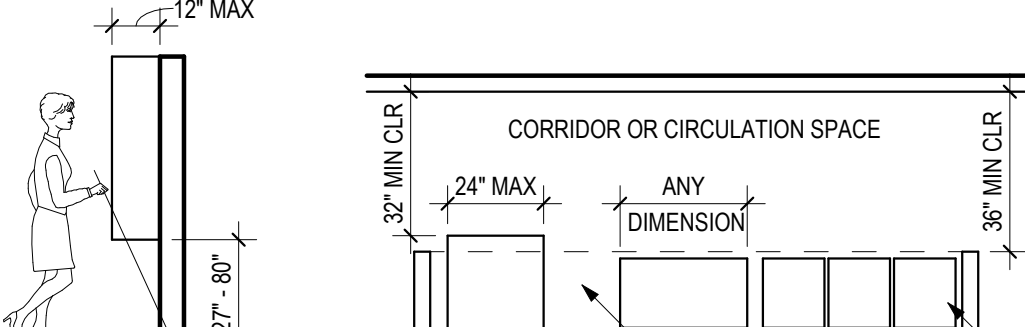


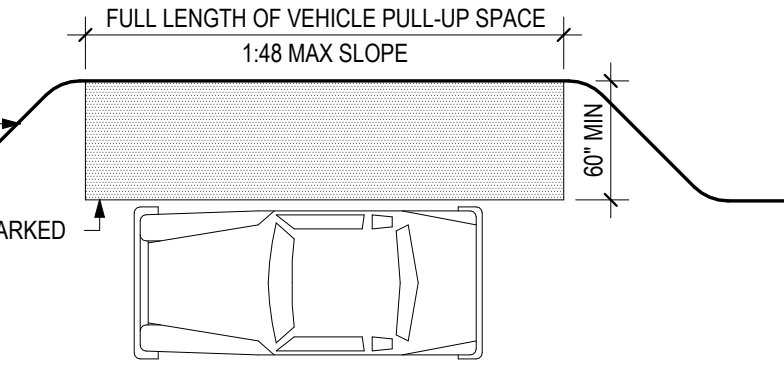
FIG. 307.3(b). POST MOUNTED PROTRUDING OBJECTS



## 3 ADA - 307 PROTRUDING OBJECTS

1/4" = 1'-0"

### FIGURE 503.3. PASSENGER LOADING ZONE ACCESS AISLE

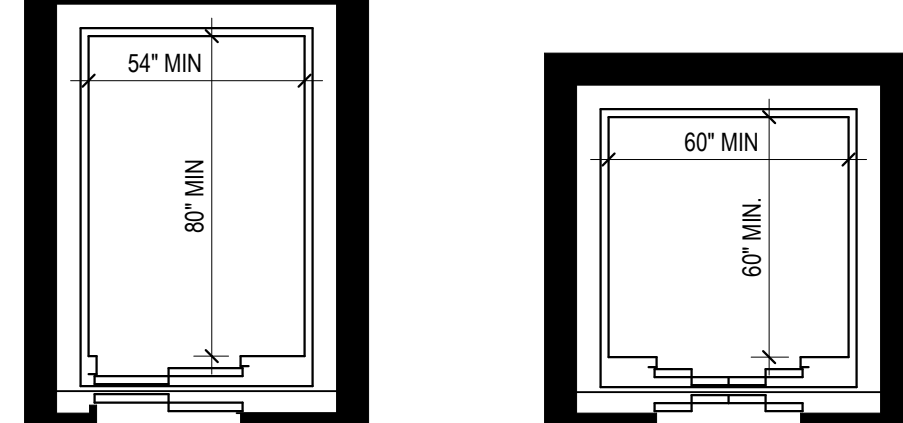
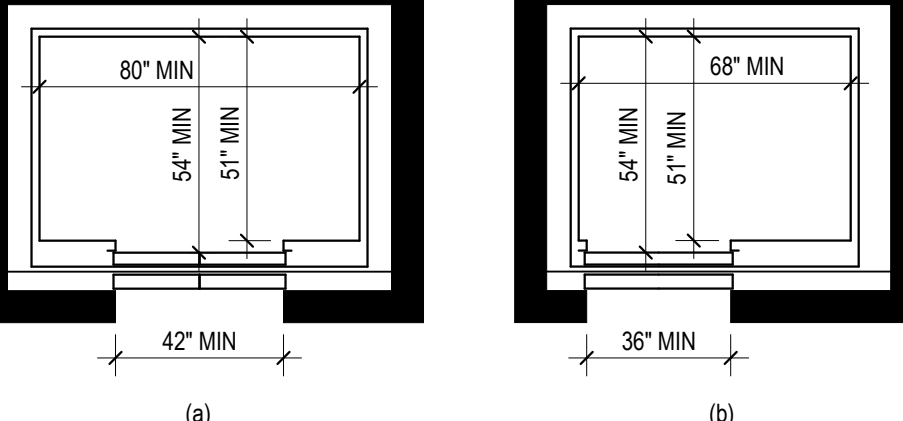


## 11 ADA - 407 ELEVATOR CAB

1/4" = 1'-0"

### 407. ELEVATORS

FIG. 407.4.1. ELEVATOR CAB DIMENSIONS

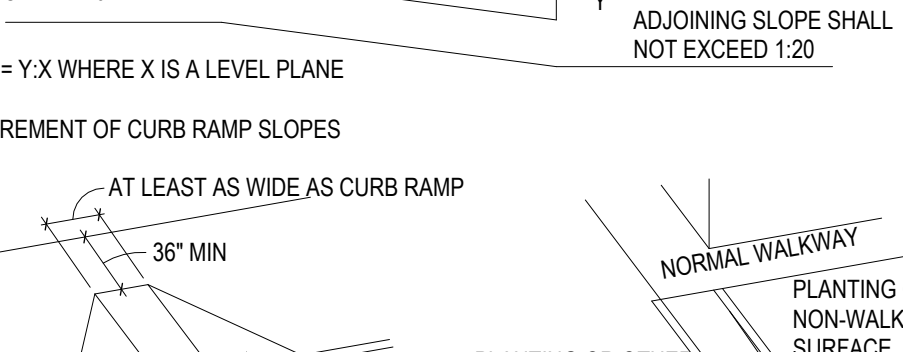


## 10 ADA - 608 SHOWER STALLS ADULT

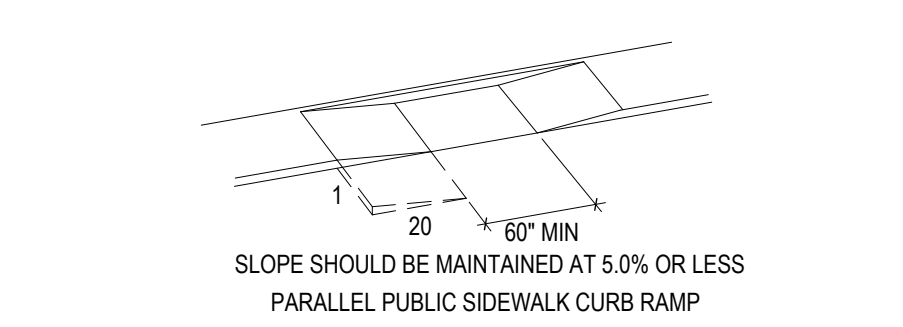
1/4" = 1'-0"

### 405. RAMPS

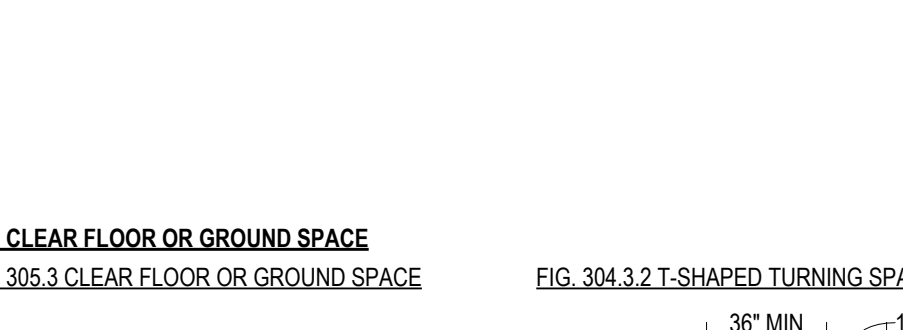
FIG. 405(a). COMPONENTS OF A SINGLE RAMP RUN AND SAMPLE DIMENSIONS



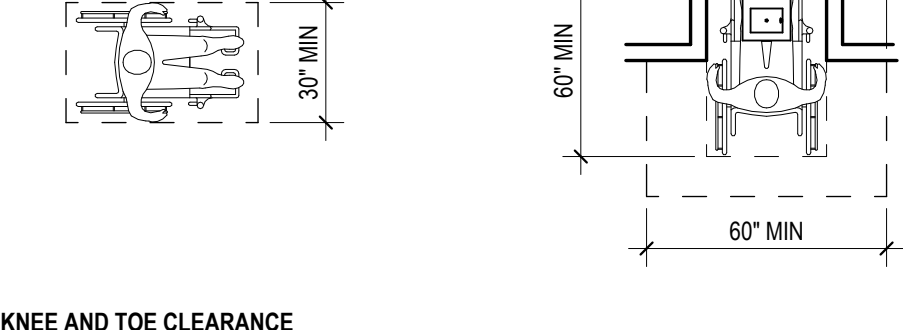
### 405(b). EDGE PROTECTION & HANDRAIL EXTENSIONS



### 405(c). CURB OR BARRIER EDGE PROTECTION

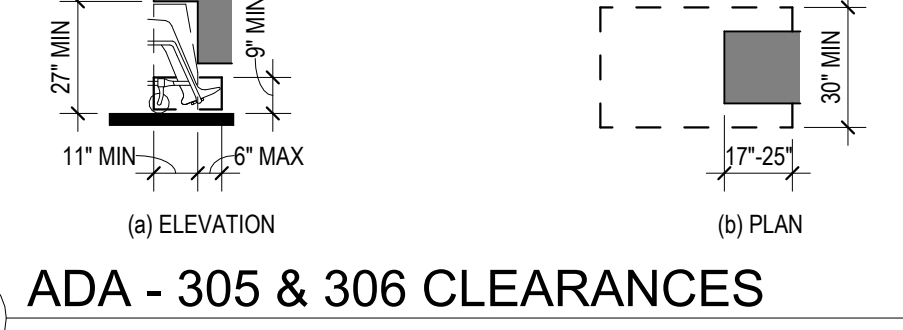


### FIG. 405.7. RAMP LANDINGS



### 306. CLEAR FLOOR OR GROUND SPACE

FIG. 306.3. CLEAR FLOOR OR GROUND SPACE



## 2 ADA - 305 & 306 CLEARANCES

1/4" = 1'-0"

### 502.2 VEHICLE PARKING SPACES



## 17 GEN - ABBREVIATIONS

1/4" = 1'-0"

### 608. SHOWER COMPARTMENTS

FIG. 608(a). 36x36 SHOWER SIZE & CLEARANCES

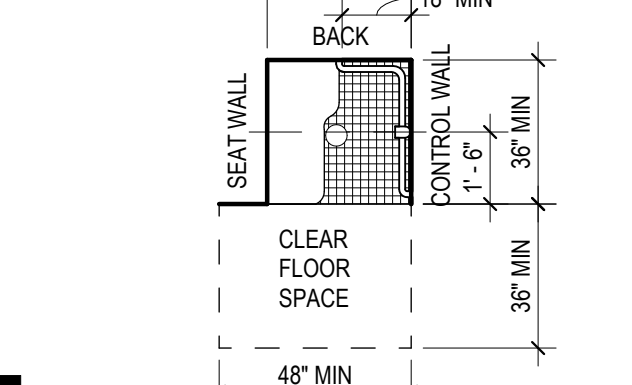


FIG. 610.3.1. 30x60 SHOWER SIZE & CLEARANCES

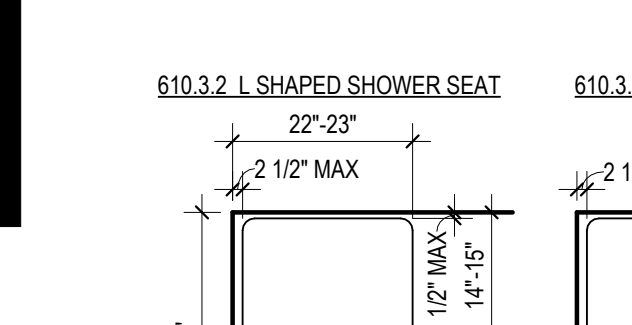


FIG. 610.3.2. L-SHAPED SHOWER SEAT

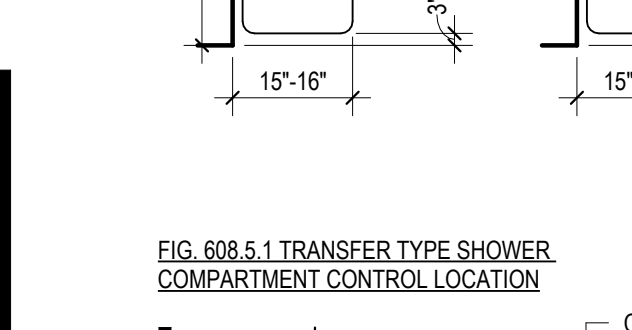
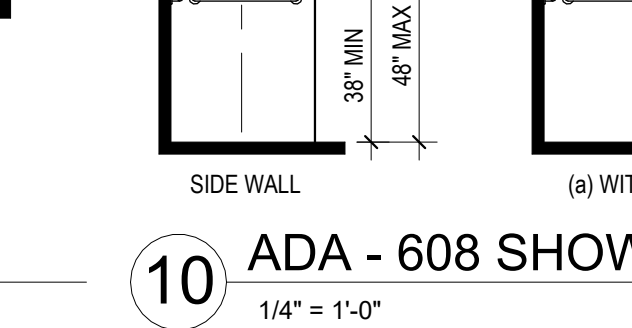


FIG. 610.3.3. RECTANGULAR SHOWER SEAT

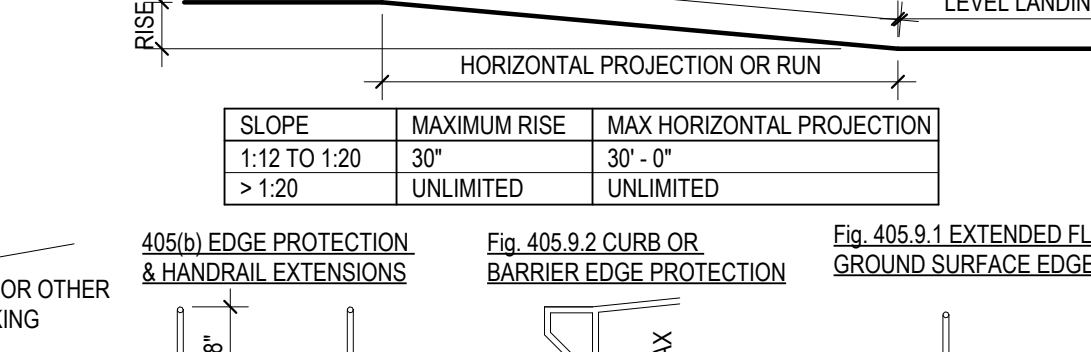


## 10 ADA - 608 SHOWER STALLS ADULT

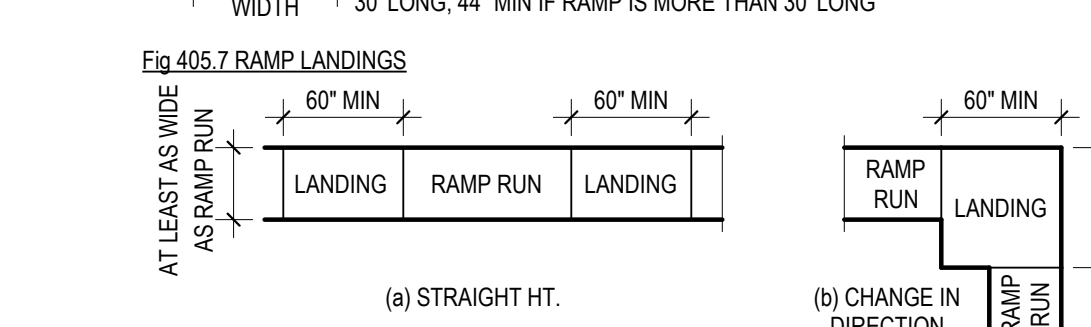
1/4" = 1'-0"

### 405. RAMPS

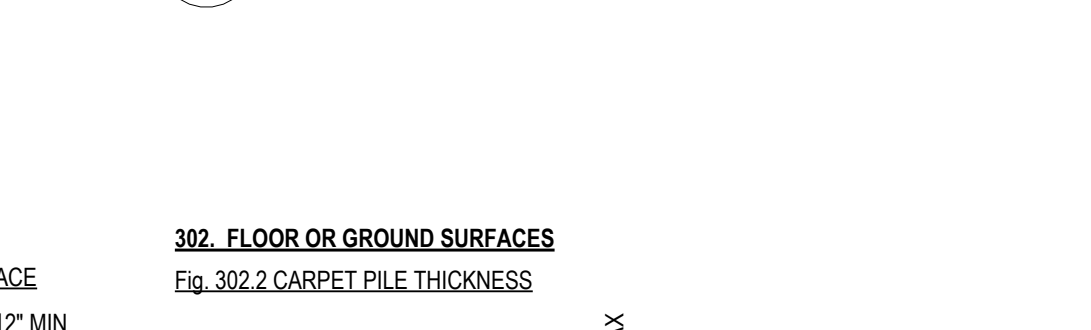
FIG. 405(a). COMPONENTS OF A SINGLE RAMP RUN AND SAMPLE DIMENSIONS



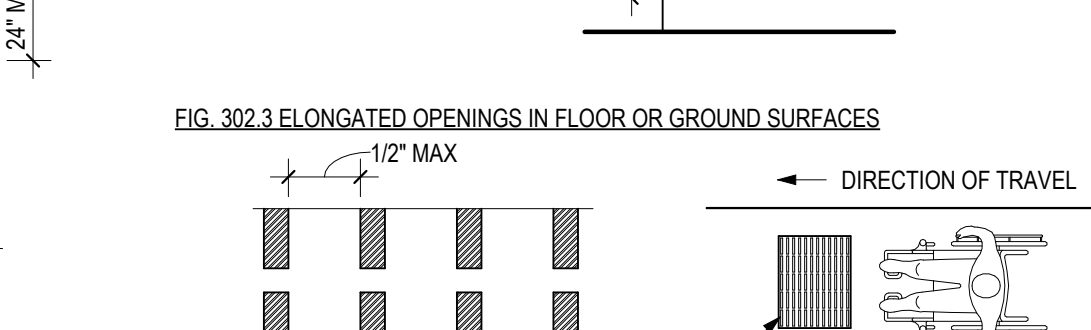
### 405(b). EDGE PROTECTION & HANDRAIL EXTENSIONS



### 405(c). CURB OR BARRIER EDGE PROTECTION

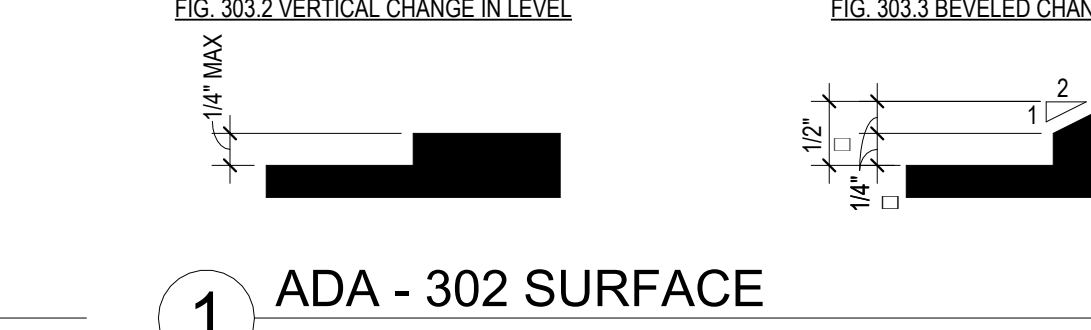


### FIG. 405.7. RAMP LANDINGS



### 306. CLEAR FLOOR OR GROUND SPACE

FIG. 306.3. CLEAR FLOOR OR GROUND SPACE



## 1 ADA - 302 SURFACE

1/4" = 1'-0"

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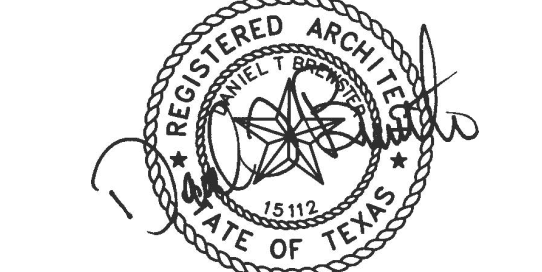
## PROJECT SCOPE

WAREHOUSE (NO SCOPE)

**TISD INNOVATION CENTER**  
**BLDG. 4 RENOVATION**  
Tomball ISD  
11211 Farm to Market 2920, Tomball, TX 77375

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PROJECT #: 202415  
DATE: 2025-03-31  
DRAWN: Author  
CHECKED: Checker

DATE: 2025-03-31  
ISSUE: PROPOSAL AND PERMIT

**G1.00**  
GENERAL/CODE  
INFORMATION



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PROJECT SCOPE

WAREHOUSE  
(NO SCOPE)

TISD INNOVATION CENTER  
BLDG. 4 RENOVATION

Tomball ISD

11211 Farm to Market 2920, Tomball, TX 77375

I. GENERAL DESCRIPTION

1. PROJECT NAME: TISD INNOVATION CENTER BLDG. 4 RENOVATION  
2. PROJECT LOCATION: 11211 FARM TO MARKET 2920, TOMBALL, TX 77375  
3. APPLICABLE CODES:  
INTERNATIONAL BUILDING CODE, 2021 ED.  
INTERNATIONAL MECHANICAL CODE, 2021 ED. WITH ADOPTED AMENDMENTS  
INTERNATIONAL PLUMBING CODE, 2021 ED. WITH ADOPTED AMENDMENTS  
NATIONAL ELECTRICAL CODE, 2023 ED. WITH ADOPTED AMENDMENTS  
INTERNATIONAL FIRE CODE, 2021 ED.  
INTERNATIONAL ENERGY CONSERVATION CODE, 2021 ED.  
ASHRAE 90.1-2007  
THE STANDARDS OF THE STATE BOARD OF INSURANCE  
TEXAS ACCESSIBILITY STANDARDS - (TAS) 2012  
NFPA 101

II. USE AND OCCUPANCY CLASSIFICATION (IBC CH. 3, CH. 4, AND CH. 5)

1. USE AND OCCUPANCY CLASSIFICATION (IBC SECTION 302.303, AND 304)  
A. GENERAL BUILDING: TYPE B - BUSINESS  
  
GENERAL (IBC SECTION 508.1)  
EACH PORTION OF A BUILDING SHALL BE INDIVIDUALLY CLASSIFIED IN ACCORDANCE WITH SECTION 302.1. WHERE A BUILDING CONTAINS MORE THAN ONE OCCUPANCY GROUP, THE BUILDING OR PORTION THEREOF SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF SECTION 508.2, 508.3, 508.4 OR 508.5 OR A COMBINATION OF THESE SECTIONS.  
  
ACCESSORY OCCUPANCIES (IBC SECTION 508.2)  
ACCESSORY OCCUPANCIES THAT ARE ANCILLARY TO THE MAIN OCCUPANCY OF THE BUILDING OR PORTION THEREOF, ACCESSORY OCCUPANCIES SHALL COMPLY WITH THE PROVISIONS OF SECTIONS 508.2.1 THROUGH 508.2.4.  
  
OCCUPANCY CLASSIFICATION (IBC SECTION 508.2.1)  
ACCESSORY OCCUPANCIES SHALL BE INDIVIDUALLY CLASSIFIED IN ACCORDANCE WITH SECTION 302.1. THE REQUIREMENTS OF THIS SPACE SHALL APPLY TO EACH PORTION OF THE BUILDING BASED ON THE OCCUPANCY CLASSIFICATION OF THAT SPACE.  
  
ALLOWABLE BUILDING HEIGHT (IBC SECTION 508.2.2)  
THE ALLOWABLE HEIGHT AND NUMBER OF STORIES OF THE BUILDING CONTAINING ACCESSORY OCCUPANCIES SHALL BE IN ACCORDANCE WITH SECTION 504 FOR THE MAIN OCCUPANCY OF THE BUILDING.  
  
ALLOWABLE BUILDING AREA (IBC SECTION 508.2.3)  
THE ALLOWABLE AREA OF THE BUILDING SHALL BE BASED ON THE APPLICABLE PROVISIONS OF SECTION 506 FOR THE MAIN OCCUPANCY OF THE BUILDING. AGGREGATE ACCESSORY OCCUPANCIES SHALL NOT OCCUPY MORE THAN 10 PERCENT OF THE FLOOR AREA OF THE STORY IN WHICH THEY ARE LOCATED AND SHALL NOT EXCEED THE TABULAR VALUES FOR NON-SPRINKLED BUILDINGS IN THE TABLE 506.2 FOR EACH SUCH ACCESSORY OCCUPANCY.  
  
SEPARATION OF OCCUPANCIES (IBC SECTION 508.2.4)  
NO SEPARATION IS REQUIRED BETWEEN ACCESSORY OCCUPANCIES AND THE MAIN OCCUPANCY.  
  
REQUIRED SEPARATION OF OCCUPANCIES (IBC TABLE 508.4)  
OCCUPANCIES "B" AND "A": NO SEPARATION REQUIRED.  
  
3. INCIDENTAL USES (IBC SECTION 509)  
  
OCCUPANCY CLASSIFICATION (IBC SECTION 509.2)  
INCIDENTAL USES SHALL NOT BE INDIVIDUALLY CLASSIFIED IN ACCORDANCE WITH SECTION 302.1. INCIDENTAL USES SHALL BE INCLUDED IN THE BUILDING OCCUPANCIES WITHIN WHICH THEY ARE LOCATED.  
  
INCIDENTAL USES (IBC TABLE 509)  
A. FURNACE ROOM WHERE ANY PIECE OF EQUIPMENT IS OVER 400,000 BTU PER HOUR INPUT: 1 HOUR OR AUTOMATIC SPRINKLER SYSTEM  
B. ROOMS WITH BOILERS WHERE THE LARGEST PIECE OF EQUIPMENT IS OVER 15 PSI AND 10 HORSEPOWER: 1 HOUR OR PROVIDE AUTOMATIC SPRINKLER SYSTEM  
C. REFRIGERANT MACHINERY ROOM: 1 HOUR OR PROVIDE AUTOMATIC SPRINKLER SYSTEM

IV. ACTUAL HEIGHT AND BUILDING AREA

1. ALLOWABLE NUMBER OF STORIES (IBC TABLE 504.4)  
BUSINESS GROUP "B": 6 STORIES  
  
2. ALLOWABLE HEIGHT (IBC TABLE 504.3)  
BUSINESS GROUP "B": 85 FEET  
  
3. ALLOWABLE AREA FACTOR (IBC TABLE 506.2)  
BUSINESS GROUP "B": 150,000 S.F. = PER STORY  
  
ALLOWABLE AREA DETERMINATION (IBC SECTION 506.2)  
1. THE ALLOWABLE AREA OF A BUILDING SHALL BE DETERMINED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF SECTIONS 506.2.1 THROUGH 506.2.4 AND SECTION 506.3.  
  
SINGLE OCCUPANCY, ONE-STORY BUILDINGS (IBC SECTION 506.2.1)  
THE ALLOWABLE AREA OF A SINGLE OCCUPANCY BUILDING WITH NO MORE THAN ONE STORY ABOVE GRADE PLANE SHALL BE DETERMINED IN ACCORDANCE WITH EQUATION 5-1:  $A_a = A_s + (N_S \times I)$   
  
FRONTAGE INCREASE PER 506.3.3 EQUATION 5-5:  $I = [F/P - 0.25]W/30$   
  
AUTOMATIC FIRE SPRINKLER INCREASE  
 $I_a = A_s \times 1.3$  (PER 506.3.300% INCREASE FOR BUILDINGS WITH NO MORE THAN ONE STORY ABOVE GRADE)  
  
 $A_a = [A_s + (I_a \times I)] \times A_s \times I_a]$   
 $A_a = [26,500 + (39,860 \times 1.3) + (26,500 \times 1.3)] = 145,856 \text{ S.F. ALLOWABLE}$

V. ACTUAL HEIGHT AND BUILDING AREA

1. ACTUAL HEIGHT: 1 STORY  
  
2. ACTUAL GROSS BUILDING AREA:  
TOTAL FIRST FLOOR SQUARE FEET = 11,841 S.F.  
TOTAL FINISHING SQUARE FEET = N/A

VI. SEPERATION AND/OR PROTECTION

1. FIRE RESISTANCE RATING REQUIREMENTS (IBC TABLE 601)  
  
CONSTRUCTION TYPE II-A  

BUILDING ELEMENT	FIRE-RESISTANCE RATING	PROVIDED
PRIMARY STRUC. FRAME	1 HOUR	EXISTING
BEARING WALLS EXTERIOR INTERIOR	1 HOUR 1 HOUR	N/A N/A
NONBEARING WALLS & PARTITIONS (EXTERIOR) NONBEARING WALLS & PARTITIONS (INTERIOR)	0 HOURS 0 HOURS	0 HOURS 0 HOURS
FLOOR CONSTRUCTION	1 HOUR	1 & 2 HR WHERE INDICATED ON LIFE SAFETY PLANS - UL DESIGN NO. U419
ROOF CONSTRUCTION	1 HOUR	1 & 2 HR WHERE INDICATED ON LIFE SAFETY PLANS - UL DESIGN NO. G709

  
  
2. FIRE BARRIERS (IBC SECTION 707)  
  
FIRE RESISTANCE RATING (IBC SECTION 707.3)  
THE FIRE-RESISTANCE RATING OF FIRE BARRIERS SHALL COMPLY WITH THIS SECTION.  
  
SHAFT ENCLOSURES (IBC SECTION 707.3.1)  
THE FIRE-RESISTANCE RATING OF THE FIRE BARRIER SEPERATING BUILDING AREAS FROM A SHAFT SHALL COMPLY WITH SECTION 713.4.  
  
FIRE RESISTANCE RATING (IBC SECTION 713.4)  
SHAFT ENCLOSURES REQUIRED TO BE 1 HOUR FIRE RATED  
  
3. INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY (IBC TABLE 803.1.1)  

GROUP	INTERIOR EXIT STAIRWAYS, INTERIOR EXIT RAMPS & EXIT PASSAGEWAYS	SPRINKLERED CORRIDORS & ENCLOSURE FOR EXIT ACCESS STAIRWAYS & EXIT ACCESS RAMPS	ROOMS & ENCLOSED SPACES
BUSINESS "B"	B	C	C

4. MACHINE ROOMS (IBC SECTION 3005)  
  
MACHINE ROOMS, CONTROL ROOMS, MACHINERY SPACES, AND CONTROL SPACES, (IBC SECTION 3005.4)  
ELEVATOR MACHINE ROOMS, CONTROL ROOMS, CONTROL SPACES AND MACHINERY SPACES OUTSIDE OF BUT ATTACHED TO A HOISTWAY THAT HAVE OPENINGS INTO THE HOISTWAY SHALL BE ENCLOSED WITH FIRE BARRIERS CONSTRUCTED IN ACCORDANCE WITH SECTION 707 OR HORIZONTAL ASSEMBLIES CONSTRUCTED IN ACCORDANCE WITH SECTION 711, OR BOTH. THE FIRE-RESISTANCE RATING SHALL BE NOT LESS THAN THE REQUIRED RATING OF THE HOISTWAY ENCLOSURE SERVED BY THE MACHINERY. OPENINGS IN THE FIRE BARRIERS SHALL BE PROTECTED WITH ASSEMBLIES HAVING A FIRE PROTECTION RATING NOT LESS THAN THAT REQUIRED FOR THE HOISTWAY ENCLOSURE DOORS. (ELEVATOR IS MACHINE ROOM-LESS)  
  
V. FIRE PROTECTION SYSTEMS  
1. AUTOMATIC SPRINKLER SYSTEMS (IBC SECTION 903): PROVIDED  
2. PORTABLE FIRE EXTINGUISHERS (IBC SECTION 906)  
PORTABLE FIRE EXTINGUISHERS SHALL BE INSTALLED IN ALL OF THE FOLLOWING LOCATIONS:  
  
A. IN GROUP A,B,E,F,H,I,J,M,R-1,R-2,R-4 AND S OCCUPANCIES.  
B. WITHIN 30 FEET (9144 MM) OF COMMERCIAL COOKING EQUIPMENT.  
C. ON EACH FLOOR OF STRUCTURES UNDER CONSTRUCTION, EXCEPT GROUP R-3 OCCUPANCIES, IN ACCORDANCE WITH SECTION 3315.1 OF INTERNATIONAL FIRE CODE.  
D. WHERE REQUIRED BY THE INTERNATIONAL FIRE CODE SECTIONS INDICATED IN THE TABLE 906.1.  
E. SPECIAL- HAZARD AREAS, INCLUDING BUT NOT LIMITED TO LABORATORIES, COMPUTER ROOMS AND GENERATOR ROOMS, WHERE REQUIRED BY THE FIRE CODE OFFICIAL.  
  
MAXIMUM TRAVEL DISTANCE TO EXTINGUISHER (IFC TABLE 906.3): 75 FEET  
  
3. FIRE ALARM SYSTEM (IBC SECTION 907): PROVIDED

VI. FIRE APARATUS ACCESS ROADS

1. REQUIRED ACCESS (IFC SECTION D102.1)  
  
ACCESS AND LOADING (IFC SECTION D102.1)  
FACILITIES, BUILDINGS OR PORTIONS OF BUILDINGS HEREAFTER CONSTRUCTED SHALL BE ACCESSIBLE TO FIRE DEPARTMENT APPARATUS BY WAY OF AN APPROVED FIRE APPARATUS ACCESS ROAD WITH AN ASPHALT, CONCRETE OR OTHER APPROVED DRIVING SURFACE CAPABLE OF SUPPORTING THE IMPOSED LOAD OF FIRE APPARATUS WEIGHING AT LEAST 75,000 POUNDS.  
  
ACCESS ROAD WIDTH WITH A HYDRANT (IFC SECTION D103.1)  
WHERE FIRE HYDRANT IS LOCATED ON A FIRE APARATUS ACCESS ROAD, THE MINIMUM ROAD WIDTH SHALL BE 26 FEET, EXCLUSIVE OF SHOULDERS. PROVIDED  
  
BUILDINGS EXCEEDING THREE STORIES OR 30 FEET IN HEIGHT (IFC SECTION D104.1)  
BUILDINGS OR FACILITIES EXCEEDING 30 FEET OR THREE STORIES IN HEIGHT SHALL HAVE ATLEAST TWO MEANS OF FIRE APPARATUS ACCESS ROADS. PROVIDED  
  
BUILDINGS EXCEEDING 62,000 SQUARE FEET IN AREA (IFC SECTION D104.2)  
BUILDINGS OR FACILITIES HAVING A GROSS BUILDING AREA OF MORE THAN 62,000 SQUARE FEET SHALL BE PROVIDED WITH TWO SEPERATE AND APPROVED FIRE APPARATUS ACCESS ROADS.

VII. EGRESS REQUIREMENTS

1. MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT (IBC TABLE 1004.1.2)  

FUNCTION SPACE	FLOOR AREA (SF PER OCCUPANT)
ACCESSORY STORAGE AREAS, MECHANICAL EQUIPMENT ROOM	300 GROSS
ASSEMBLY WITHOUT FIXED SEATS CONCENTRATED (CHAIRS ONLY - NOT FIXED) STANDING SPACE UNCONCENTRATED (TABLES AND CHAIRS)	7 NET 5 NET 15 NET 100 GROSS
BUSINESS AREAS	100 GROSS
EDUCATIONAL	20 NET 50 NET
CLASSROOM AREA SHOPS AND OTHER VOCATIONAL ROOM AREAS	200 GROSS 50 GROSS
KITCHENS, COMMERCIAL LOCKER ROOMS	200 GROSS 50 GROSS

  
  
2. MEANS OF EGRESS SIZING (IBC SECTION 1009)  
  
STAIRWAYS (IBC SECTION 1005.3.1)  
STAIRWAY (WITH SPRINKLER SYSTEM)  
7'-4" STAIR B116/229 (86" CLEAR) @ 2" PER OCCUPANT = 440 OCCUPANTS  
6'-3" STAIR C109/C208 (75" CLEAR) @ 2" PER OCCUPANT = 375 OCCUPANTS  
7'-4" STAIR D117/D208 (88" CLEAR) @ 2" PER OCCUPANT = 440 OCCUPANTS  
  
OTHER EGRESS COMPONENTS (IBC SECTION 1005.3.2)  
OTHER EGRESS COMPONENTS (WITH SPRINKLER SYSTEM)  
3'-0" DOOR @ 15" PER OCCUPANT = 240 OCCUPANTS  
4'-0" DOOR @ 15" PER OCCUPANT = 360 OCCUPANTS  
PAIR 3'-0" DOORS @ 15" PER OCCUPANT = 480 OCCUPANTS

3. ADJACENT STORIES (IBC SECTION 1004.1.1.3)  
OTHER THAN FOR THE EGRESS COMPONENTS DESIGNED FOR CONVERGENCE IN ACCORDANCE WITH SECTION 1005.6, THE OCCUPANT LOAD FROM SEPERATE STORIES SHALL NOT BE ADDED.  
  
5. EXIT ACCESS TRAVEL DISTANCE (IBC SECTION 1017)  
  
LIMITATIONS (IBC SECTION 1017.2)  
THE MEANS OF EGRESS SYSTEM SERVING ANY STORY OR OCCUPIED ROOF SHALL BE PROVIDED WITH THE NUMBER OF EXITS OR ACCESS TO EXITS BASED ON THE AGGREGATE OCCUPANT LOAD SERVED IN ACCORDANCE WITH THIS SECTION. THE PATH OF EGRESS TRAVEL TO AN EXIT SHALL NOT PASS THROUGH MORE THAN ONE ADJACENT STORY.  
  
EXIT ACCESS TRAVEL DISTANCE (IBC TABLE 1017.2)  
BUSINESS "B" WITH SPRINKLER SYSTEM: 300 FEET  
  
6. EGRESS FROM STORIES OR OCCUPIED ROOFS (IBC SECTION 1006.3)  
THE MEANS OF EGRESS SYSTEM SERVING ANY STORY OR OCCUPIED ROOF SHALL BE PROVIDED WITH THE NUMBER OF EXITS OR ACCESS TO EXITS BASED ON THE AGGREGATE OCCUPANT LOAD SERVED IN ACCORDANCE WITH THIS SECTION. THE PATH OF EGRESS TRAVEL TO AN EXIT SHALL NOT PASS THROUGH MORE THAN ONE ADJACENT STORY.  
  
WHERE THREE OR MORE EXITS OR ACCESS TO EXITS ARE REQUIRED, NOT LESS THAN 50 PERCENT OF THE REQUIRED EXITS SHALL BE INTERIOR OR EXTERIOR EXIT STAIRWAYS.  
  
7. STAIRWAYS (IBC SECTION 1009.3)  
IN ORDER TO BE CONSIDERED PART OF AN ACCESSIBLE MEANS OF EGRESS, A STAIRWAY BETWEEN STORIES SHALL HAVE A CLEAR WIDTH OF 48 INCHES (219MM) MINIMUM BETWEEN HANDRAILS AND SHALL EITHER INCORPORATE AN AREA OF REFUGE WITHIN AN ENLARGED FLOOR LEVEL LANDING OR SHALL BE ACCESSSED FROM AN AREA OF REFUGE COMPLYING WITH SECTION 1009.6. EXIT ACCESS STAIRWAYS THAT CONNECT LEVELS IN THE SAME STORY ARE NOT PERMITTED AS PART OF AN ACCESSIBLE MEANS OF EGRESS.  
EXCEPTION 5: AREAS OF REFUGE ARE NOT REQUIRED AT STAIRWAYS IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SETION 903.3.1.1 OR 903.3.1.2. NOT REQUIRED  
  
8. AREAS OF REFUGE (IBC SECTION 1009.6)  
EVERY REQUIRED AREA OF REFUGE SHALL BE ACCESSIBLE FROM THE SPACE IT SERVES BY AN ACCESSIBLE MEANS OF EGRESS.  
  
SIZE (IBC SECTION 1009.6.3)  
EACH AREA OF OR REFUGE SHALL BE SIZED TO ACCOMMODATE ONE WHEELCHAIR SPACE OF 30 INCHES BY 48 INCHES (762MM BY 1219MM) FOR EACH 200 OCCUPANTS OR PORTION THEREOF, BASED ON THE OCCUPANT LOAD OF THE AREA OF REFUGE AND AREAS SERVED BY THE AREA OF REFUGE. SUCH WHEELCHAIR SPACES SHALL NOT REDUCE THE MEANS OF EGRESS MINIMUM WIDTH OR REQUIRED CAPACITY. ACCESS TO ANY OF THE REQUIRED WHEELCHAIR SPACES IN AN AREA OF REFUGE SHALL NOT BE OBSTRUCTED BY MORE THAN ONE ADJOINING WHEEL CHAIR.  
  
SEPARATION (IBC SECTION 1009.6.4)  
EACH AREA OF REFUGE SHALL BE SEPERATED FROM THE REMAINDER OF THE STORY BY A SMOKE BARRIER COMPLYING WITH SECTION 709 OR HORIZONTAL EXIT COMPLYING WITH SECTION 1026. EACH AREA OF REFUGE SHALL BE DESIGNED TO MINIMIZE THE INTRUSION OF SMOKE.  
EXCEPTION 1: AREAS OF REFUGE LOCATED WITHIN AN ENCLOSURE FOR INTERIOR EXIT STAIRWAYS COMPLYING WITH SECTION 1023.  
  
TWO WAY COMMUNICATION (IBC SECTION 1009.6.5)  
AREAS OF REFUGE SHALL BE PROVIDED WITH TWO-WAY COMMUNICATION SYSTEM COMPLYING WITH SECTIONS 1009.8.1 AND 1009.8.2.  
  
9. CORRIDORS SECTION 1020  
  
WIDTH AND CAPACITY (IBC SECTION 1020.2)  
THE REQUIRED CAPACITY OF CORRIDORS SHALL BE DETERMINED AS SPECIFIED IN SECTION 1005.1, BUT THE MINIMUM WIDTH SHALL BE NOT LESS THAN THAT SPECIFIED IN TABLE 1020.2.  
"OCCUPANCY "B" MINIMUM WIDTH 44 INCHES  
  
DEAD ENDS (IBC SECTION 1020.4)  
EXCEPTION 2: IN OCCUPANCIES IN GROUPS B,E,F,I,H,M,R-1,R-2,R-4,S,AND U, WHERE THE BUILDING IS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1, THE LENGTH OF THE DEAD-END CORRIDORS SHALL NOT EXCEED 50 FEET.

ARCADIS

ARCADIS INC.

1330 POST OAK BOULEVARD, SUITE 2250  
HOUSTON, TX 77056  
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REGISTERED ARCHITECT  
STATE OF TEXAS

PROJECT #: 202415  
DATE: 2025-03-31  
DRAWN: BN/LP  
CHECKED: -  
  
DATE: 2025-03-31  
ISSUE  
PROPOSAL AND PERMIT

G1.01

CODE ANALYSIS

12" = 1'-0"

PLAN NORTH

1

GEN - CODE ANALYSIS



ROOM OCCUPANCY LOAD

100

←

DENOTES EXIT DIRECTION,  
MAX EXIT CAPACITY & # OF  
OCCUPANTS PER FLOOR

---

TRAVEL DISTANCE TO EXIT

---

SMOKE RATED WALL

---

1HR RATED WALL

---

2HR RATED WALL

FE

FIRE EXTINGUISHER

F.E.C.

FIRE EXTINGUISHER & CABINET

A.E.D.

A.E.D. & CABINET

LEGEND - LIFE SAFETY PLAN

1/4" = 1'-0"

The diagram is a detailed 1st floor life safety plan for a renovation project. It shows a large rectangular building footprint. The top portion contains a series of rooms: OFFICE 1007 (3), OFFICE 1008 (2), OFFICE 1009 (2), OFFICE 1004 (2), OFFICE 1003 (3), OFFICE 1002 (3), RECP. 1006 (3), ENTRY 1000, CORR. 1000.1, OFFICE 1009 (2), PRINTER 1008 (1), OFFICE 1015 (2), CORR. 1000.2, OFFICE 1011 (2), OFFICE 1012 (2), OFFICE 1013 (2), OFFICE 1014 (2), LARGE CONFERENCE 1016 (5), LOUNGE 1017 (5), STORAGE 1019, CUST. 1019, CORR. 1000.5, RESTROOM 1020, RESTROOM 1021, MEN'S R. 1022, RELOCATED A.E.D., SMALL CORR. 1022 (2), MCH. 1026 (1), EXISTING 2 HR RATING, F.E.C. 1027 (1), ELEC. 1028.4 (3), PLUMB. 1028.5 (3), FACILITIES 1022 (22), HVAC 1028.1 (3), CARPET/MANT 1028.2 (6), GROUNDS 1028.3 (3), LOCKSHOP 1028 (3), F.E.C. 1029 (3), COMM. 1028.6 (5), and OFFICE 1029 (3). A dashed line indicates a travel distance to exit. A thick dotted line along the bottom and right edges indicates a 4-hour fire rating. Exit 1 is at the top center, Exit 2 at the top right, Exit 3 at the bottom right, and Exit 4 at the bottom left. The bottom half of the plan is labeled 'EXISTING WAREHOUSE WITH EXISTING FIRE SPRINKLER'. A north arrow is located at the bottom right.

1 LIFE SAFETY PLAN - 1ST FLOOR  
1" = 10'-0"

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Houston, TX 77072  
Tel: 713.780.3345  
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PROJECT SCOPE  
WAREHOUSE  
(NO SCOPE)

TISD INNOVATION CENTER  
BLDG. 4 RENOVATION  
Tomball ISD  
11211 Farm to Market 2920, Tomball, TX 77375

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DATE: 2025-03-31  
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G1.02  
1ST FLOOR LIFE  
SAFETY PLAN

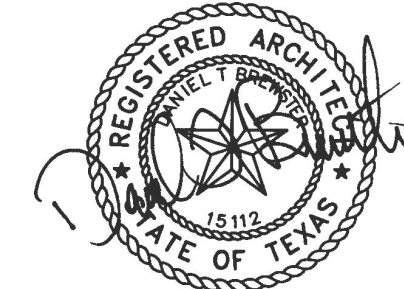


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**TISD INNOVATION CENTER  
BLDG. 4 RENOVATION**

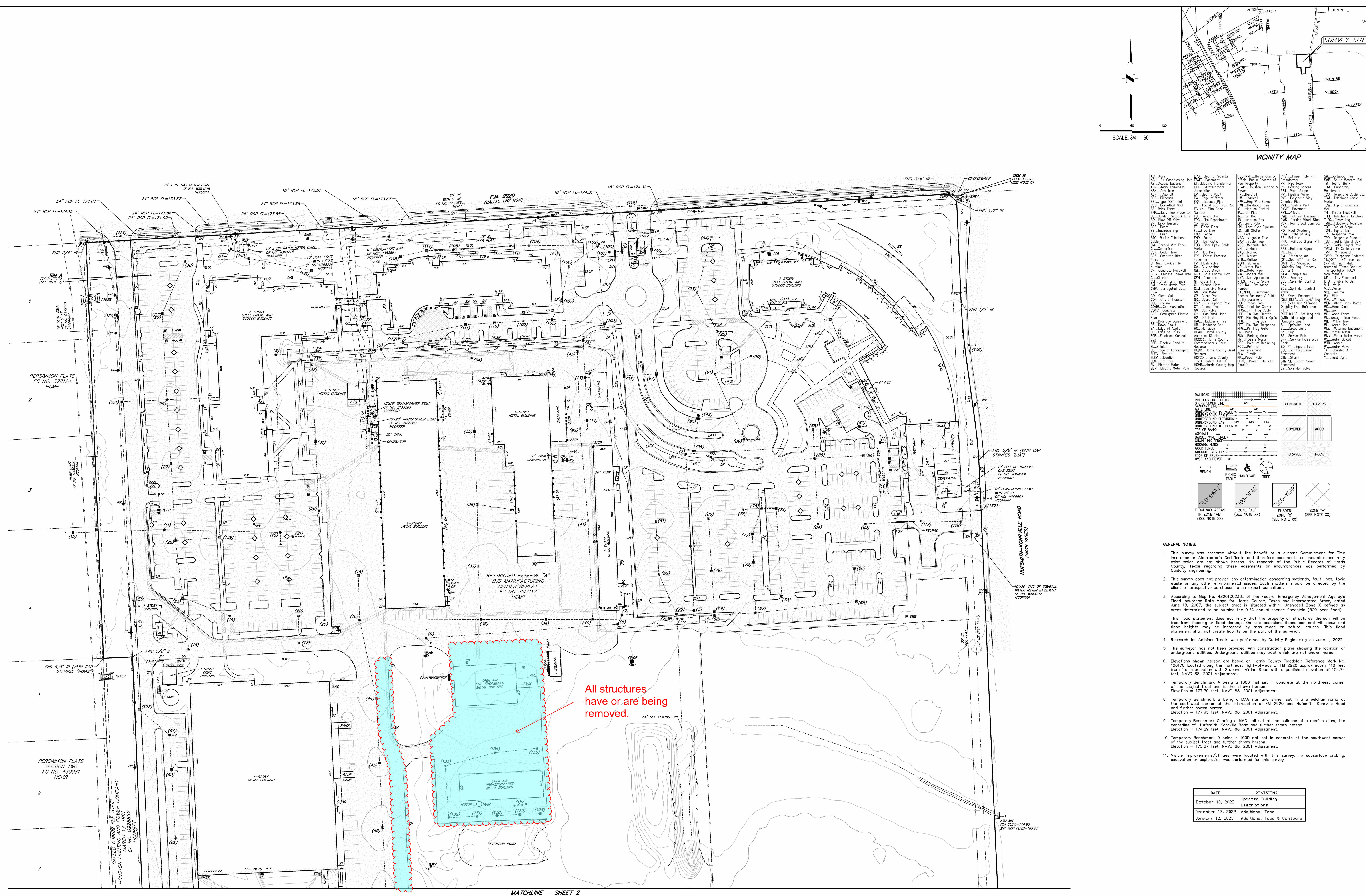
 **ARCADIS**  
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DATE	ISSUE
2025-03-31	PROPOSAL AND PERM

SV.01

SURVEY



MATCHLINE - SHEET 2

Subject to the General Notes shown:  
To: Tomball Independent School District

We, Quidlity Engineering, acting by and through Russell B. Torosiewicz, a Registered Professional Land Surveyor, hereby certify that this survey substantially complies with the current Texas Society of Professional Surveyors Manual of Practice requirements for a Category 6, Condition 2 Survey.

Surveyed: June 22, 2022

*RBT*  
Russell B. Tarasiewicz  
Registered Professional Land Surveyor  
No. 6575  
rtarasiewicz@quiddity.com

TOPOGRAPHIC SURVEY  
OF  
RESTRICTED RESERVE "A"  
OF  
BJS MANUFACTURING  
CENTER REPLAT  
OUT OF THE  
JESSE PRUITT SURVEY, A-63  
HARRIS COUNTY, TEXAS  
NOVEMBER 2022


**QUIDDITY**

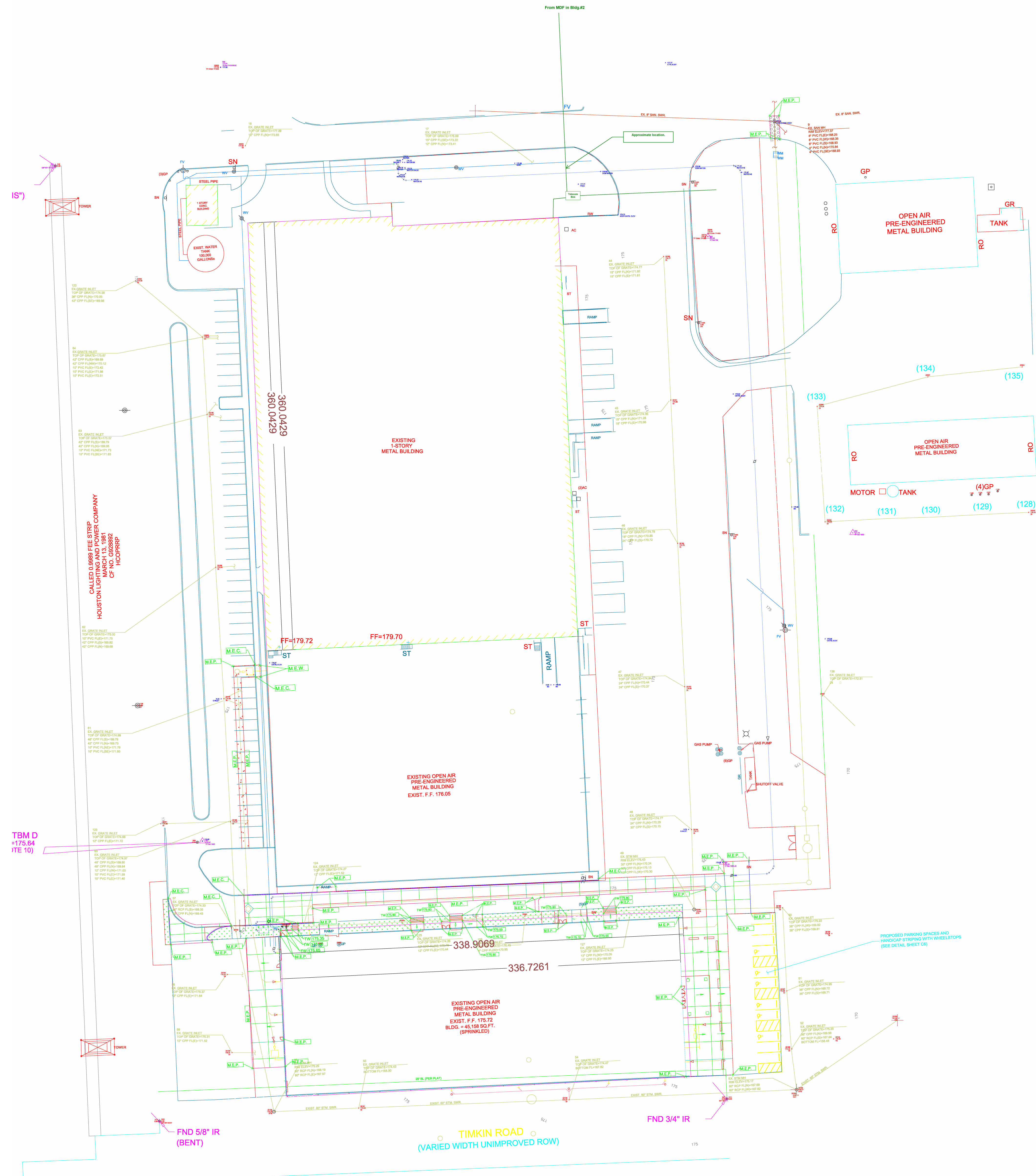
**SHEET 1 OF 2**

-328- No. 00188-0132-02 DWG. No. 17521

X:\00185\00088-0130-00 Master Planning and Civil Work for Tonbo\1 Surveying Phase\CAD Files\Final Rep\17581\_V4.dwg Jun 12, 2003 - 5:35pm ch

-328- No. 00188-0132-02 DWG. No. 17521





CONSULTANTS

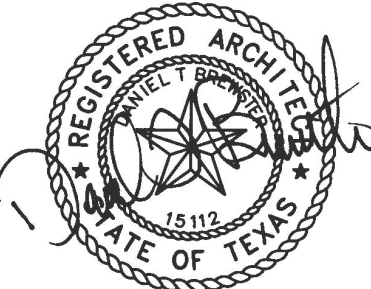
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**TISD INNOVATION CENTER  
BLDG. 4 RENOVATION**

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PROJECT #: 202415  
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ISSUE: PROPOSAL AND PERMIT

**SV.02**  
WATER PIPING  
AS BUILTS





1. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING SITE CONDITIONS, DIMENSIONS, UTILITIES, ETC. WHERE NEW CONSTRUCTION JOINS EXISTING CONDITIONS, THE EXISTING CONDITIONS SHALL CONTROL. ALL DISCREPANCIES SHALL BE SUBMITTED TO THE ARCHITECT FOR CONSIDERATION BEFORE PROCEEDING WITH THE WORK.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING & MODIFYING EXISTING UTILITY LINES ABOVE & BELOW GRADE DURING THE ENTIRE CONSTRUCTION PERIOD INCLUDING ALL NECESSARY TIE-INS & ELEVATION ADJUSTMENTS, RELOCATION OF ALL UTILITY POLES, LINES & OTHER EXISTING SERVICES. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE WORK INCLUDING VERIFICATION & COORDINATION WITH THE APPROPRIATE AGENCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING UTILITIES IMMEDIATELY TO INSURE NO INTERRUPTION OF SERVICE. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH APPROPRIATE AGENCIES ALL BURIED LINES THAT APPROACH THE CONSTRUCTION AREA.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN & IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN & SHALL ACQUIRE ALL NECESSARY PERMITS FROM THE APPROPRIATE AGENCIES.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL VEGETATION, SHRUBS, TREES, ETC. INDICATED TO REMAIN FROM ALL CONSTRUCTION ACTIVITIES. DAMAGED LANDSCAPING SHALL BE REPLACED WITH LIKE MATERIALS & SIZE(S) AT THE DIRECTION OF THE ARCHITECT.
5. THE OWNER HAS NEED TO OCCUPY THE FACILITIES DURING THE ENTIRE CONSTRUCTION PROCESS. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE OWNER & TAKE ALL NECESSARY MEANS TO ISOLATE OCCUPANTS FROM CONSTRUCTION AREA. NO DISRUPTIVE WORK WILL BE PERMITTED INSIDE THE FACILITY DURING SCHOOL HOURS. CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE CONSTRUCTION AREA CLEAN OF DEBRIS & EXCESSIVE DUST. CONTRACTOR SHALL BE RESPONSIBLE FOR IMMEDIATELY CORRECTING ANY INTERRUPTED USE TO THE FACILITY AT NO COST TO THE OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF ANY DAMAGE TO EXISTING FACILITY MATERIALS AT THE DIRECTION OF THE ARCHITECT & AT NO COST TO THE OWNER.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY & ALL MEANS OF SECURITY FOR THE PORTION OF THE FACILITY UNDER CONSTRUCTION OR BEING RENOVATED.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY & ALL MEANS OF ACCESSING THE CONSTRUCTION AREA REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND RESTORATION OF THE EXISTING AREA(S) UPON COMPLETION OF THE CONSTRUCTION. THE OWNER RESERVES THE RIGHT TO APPROVE ALL CROSSINGS.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING UNDERGROUND STORM LINES DURING ALL CONSTRUCTION INCLUDING NEW TIE-INS. CONTRACTOR SHALL REPAIR DAMAGE TO EXISTING SYSTEM (PIPE, GRATES, ETC.) IMMEDIATELY TO INSURE NO INTERRUPTION. CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT AGAINST SEDIMENT INFILTRATION AND SHALL JET CLEAN ALL LINES AS NECESSARY & UPON COMPLETION OF CONSTRUCTION.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR MODIFYING EXISTING SWALES AND/ OR CREATING NEW TEMPORARY WALES OR BERMS AS REQUIRED TO PROVIDE POSITIVE DRAINAGE AWAY FROM DRAINAGE AREA(S). NO FLOODING OF ADJACENT AREAS WILL BE ALLOWED.

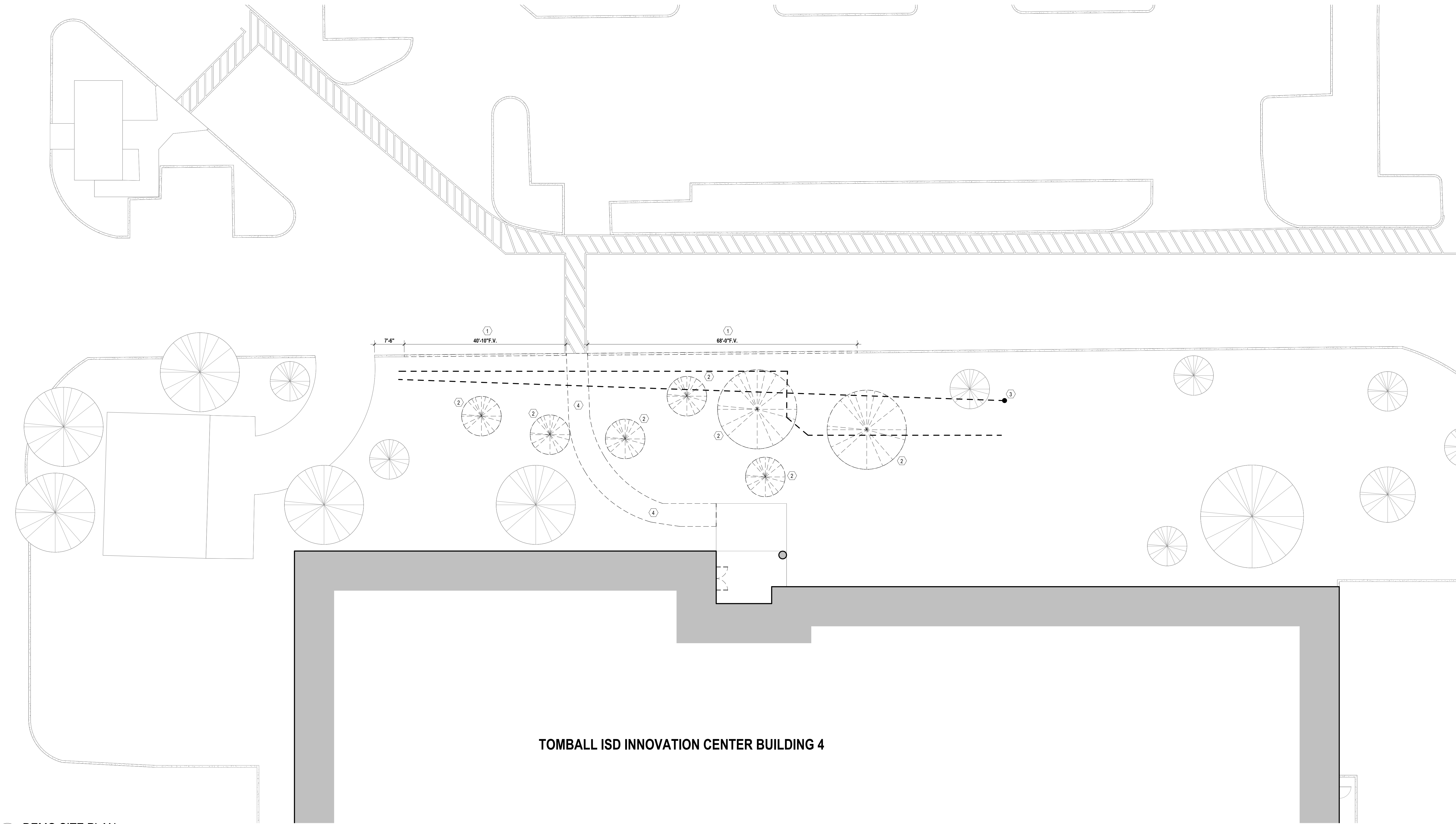
NOTES - GENERAL SITE PLAN - DEMO

1/4" = 1'-0"

1. EXISTING CURB TO BE REMOVED
2. EXISTING TREE AND ROOT SYSTEM TO BE REMOVED
3. EXISTING WATER VALVE TO BE PROTECTED, NO SCOPE
4. EXISTING FLATWORK TO BE DEMOLISHED AND REMOVED

KEYNOTES - SITE PLAN - DEMO

1/4" = 1'-0"



TOMBALL ISD INNOVATION CENTER BUILDING 4

1 DEMO SITE PLAN

3/32" = 1'-0"

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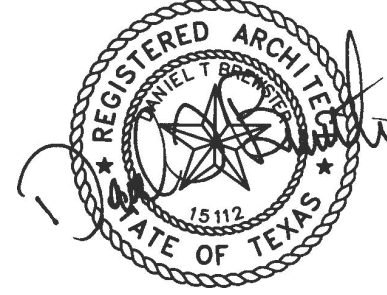
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TISD INNOVATION CENTER  
BLDG. 4 RENOVATION

Tomball ISD  
11211 Farm to Market 2920, Tomball, TX 77375



ARCADIS INC.  
1330 POST OAK BOULEVARD, SUITE 2250  
HOUSTON, TX 77056  
tel 281.286.6605, fax 713.977.4620



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DATE: 2025-03-31  
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C1.00

SITE DEMO PLAN





- NOTES - GENERAL SITE PLAN

- ADDITIONAL SCOPE:**
- LANDSCAPE: CONTRACTOR TO PROVIDE 5' OF SOD ON EDGE OF ALL NEW PAVEMENT, CURBS, OR FLATWORK. ANY OTHER DISTURBED AREAS TO RECEIVE HYDROMULCH.**
- PRESSURE WASHING: CONTRACTOR TO PRESSURE WASH OFFICE SECTION OF BUILDING AND SIDE WALK LEADING TO FRONT DOOR.**

**LEGEND - PAVING/ FLATWORK**  
1" = 1'-0"

- KEYNOTES - SITE PLAN

**TISD INNOVATION CENTER  
BLDG. 4 RENOVATION**

Tomball ISD

11211 Farm to Market 2920, Tomball, TX 77375



--	--

# C1.01

## AREA SITE PLAN

1 SITE PLAN  
3/32" = 1'-0"

PLAN  
NORTH





CONSULTANTS

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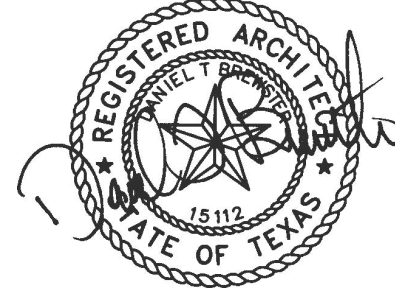
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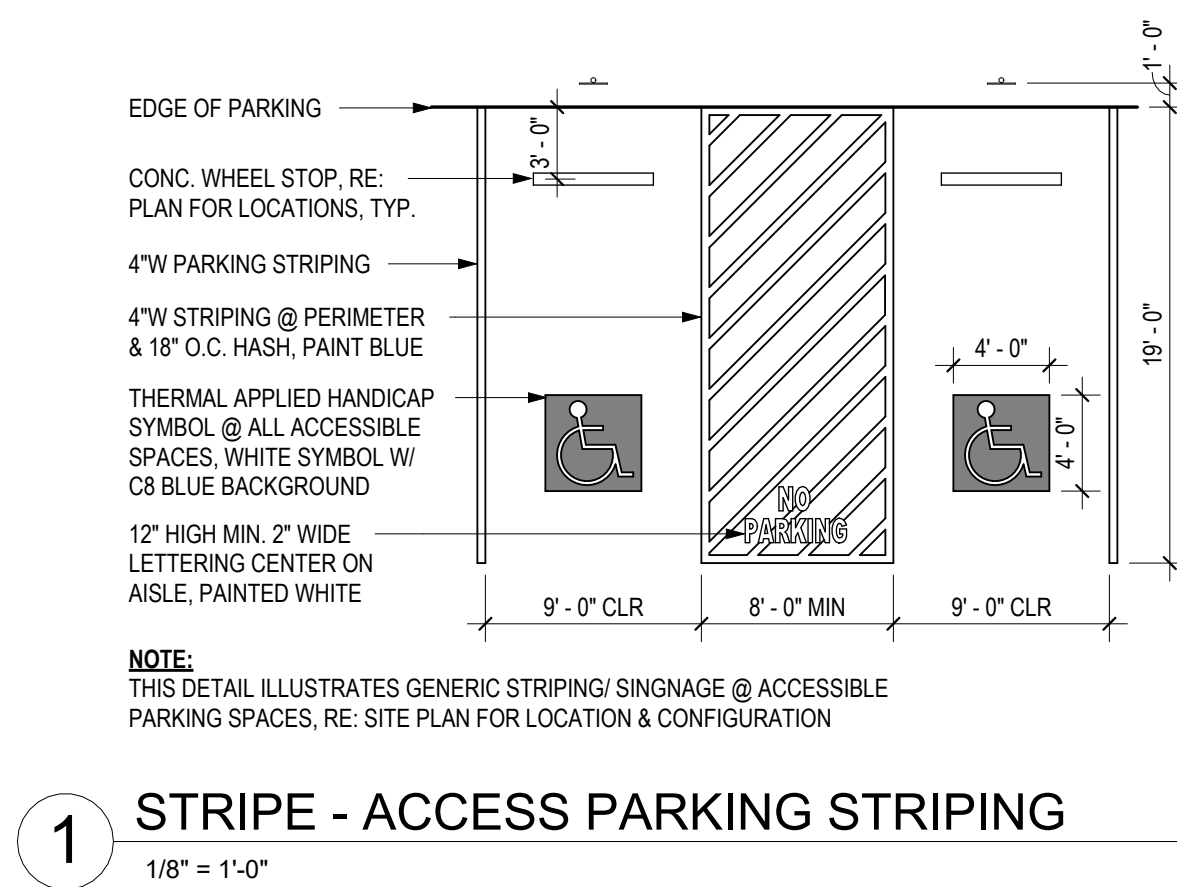
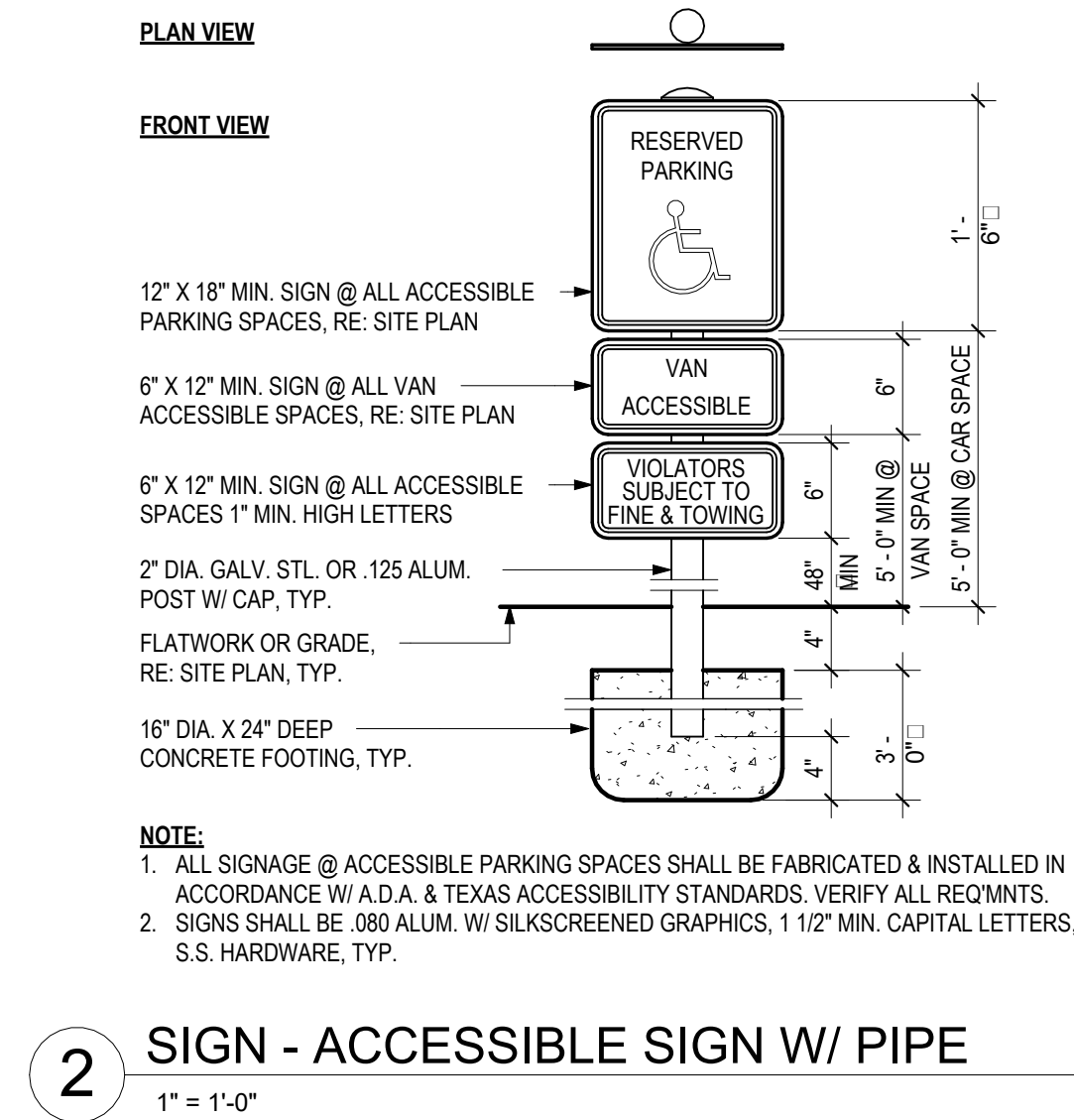
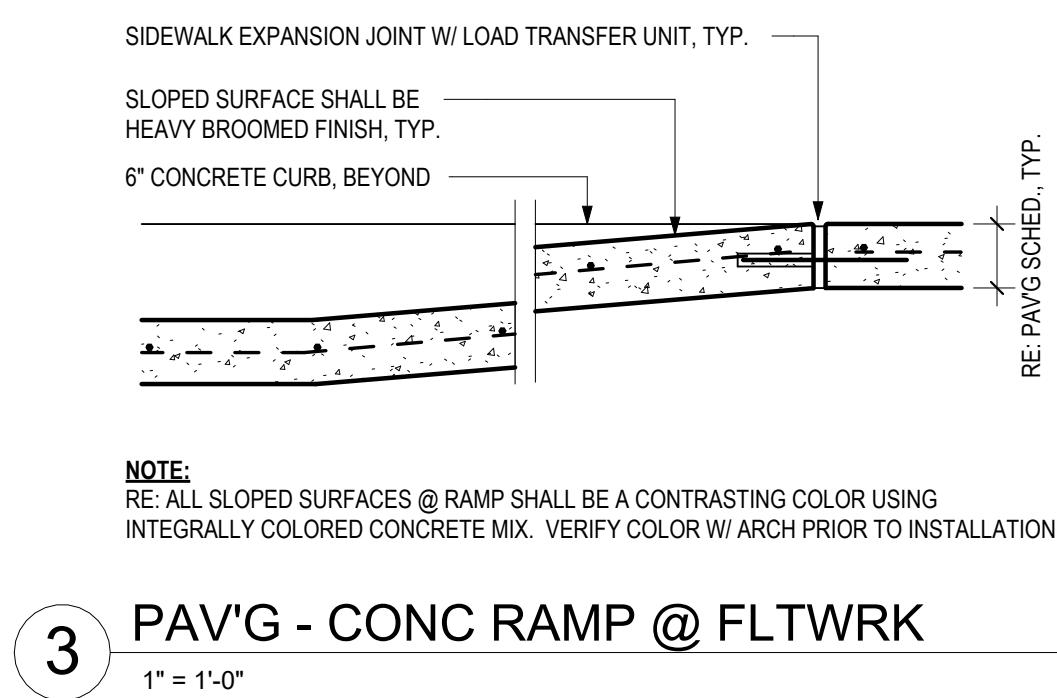
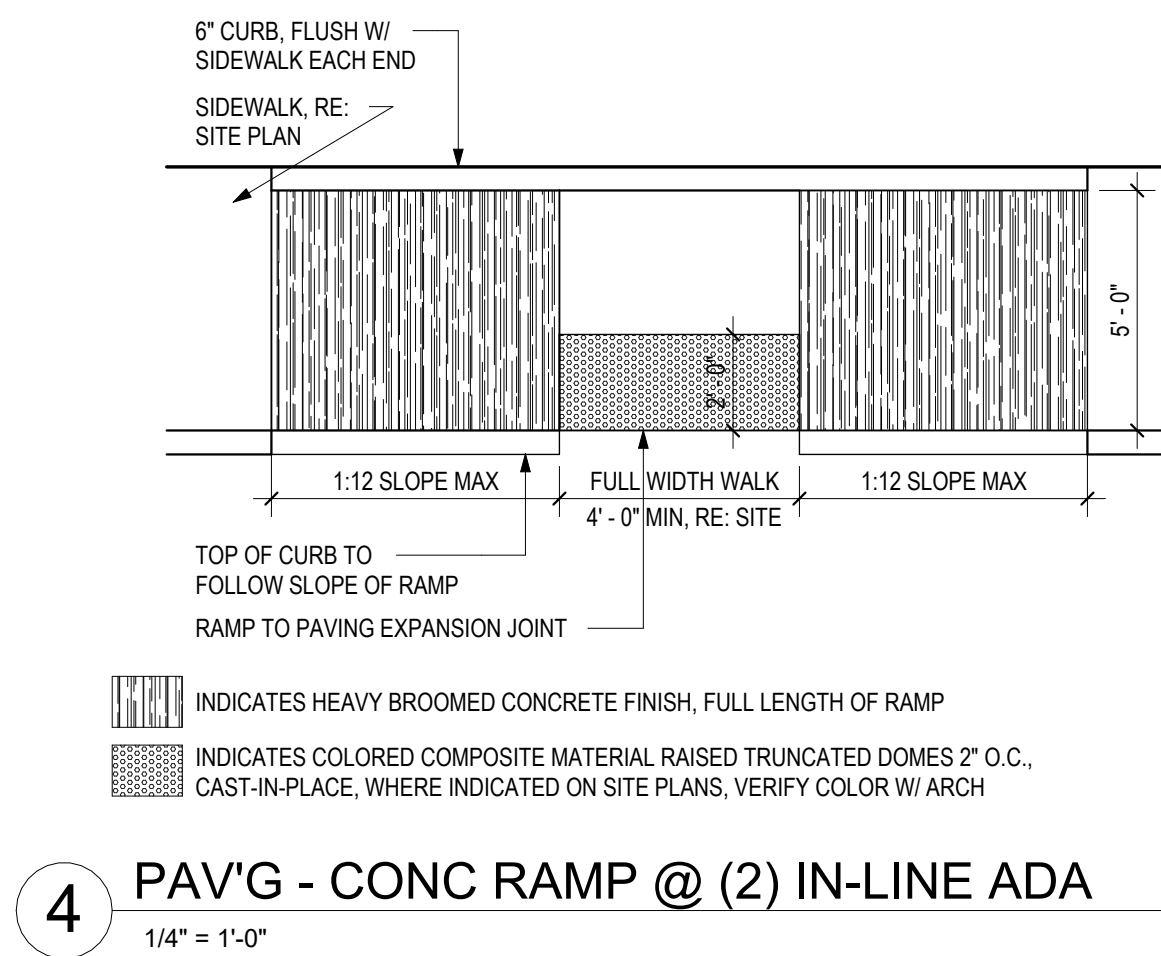
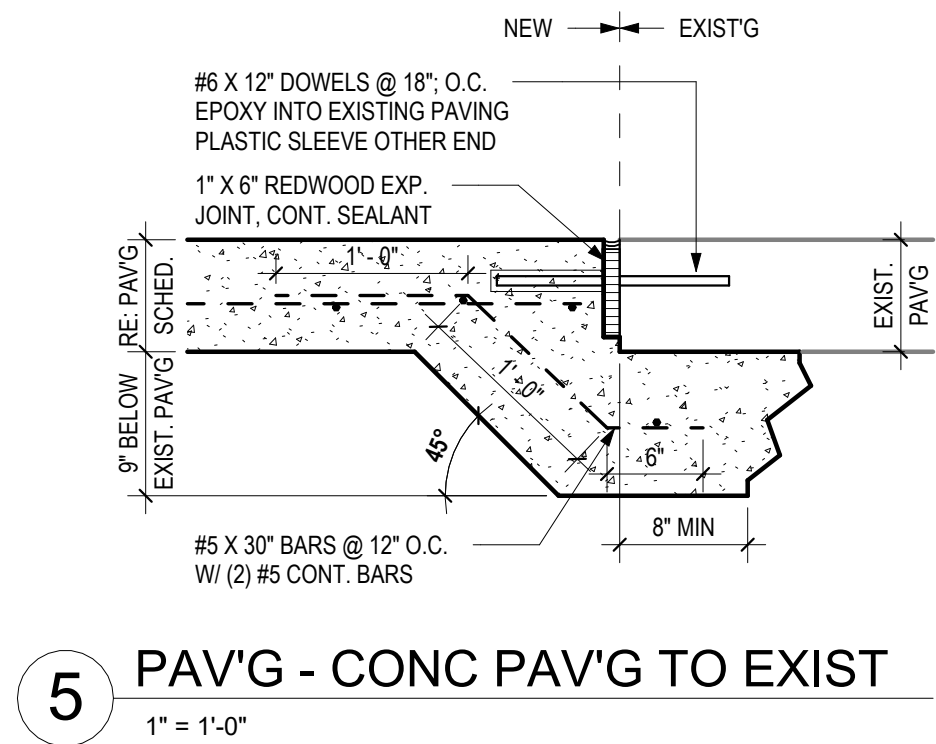
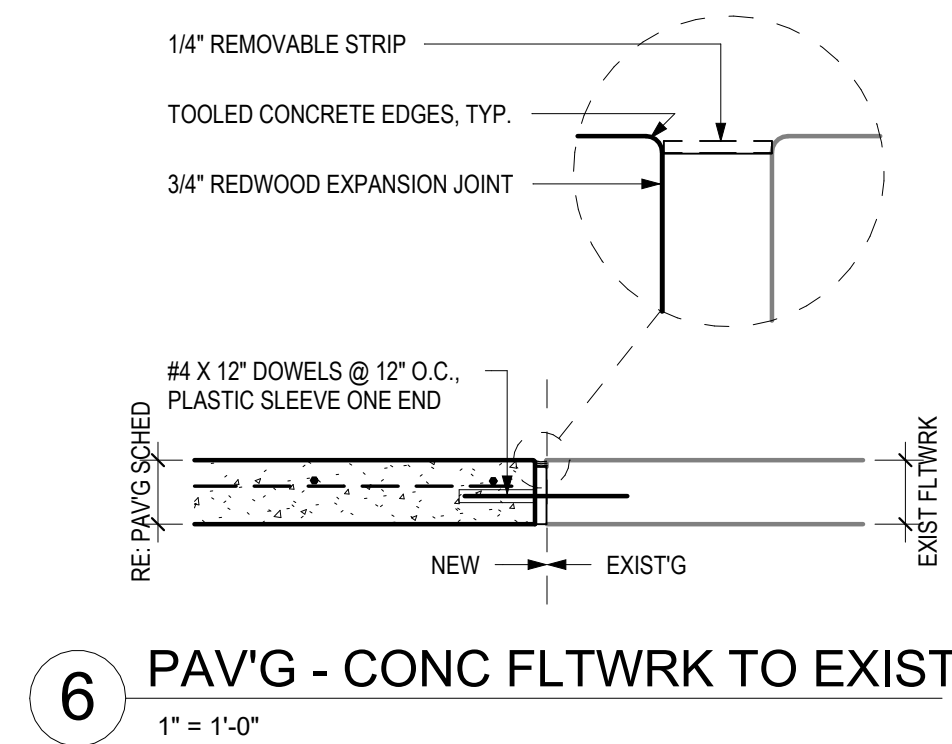
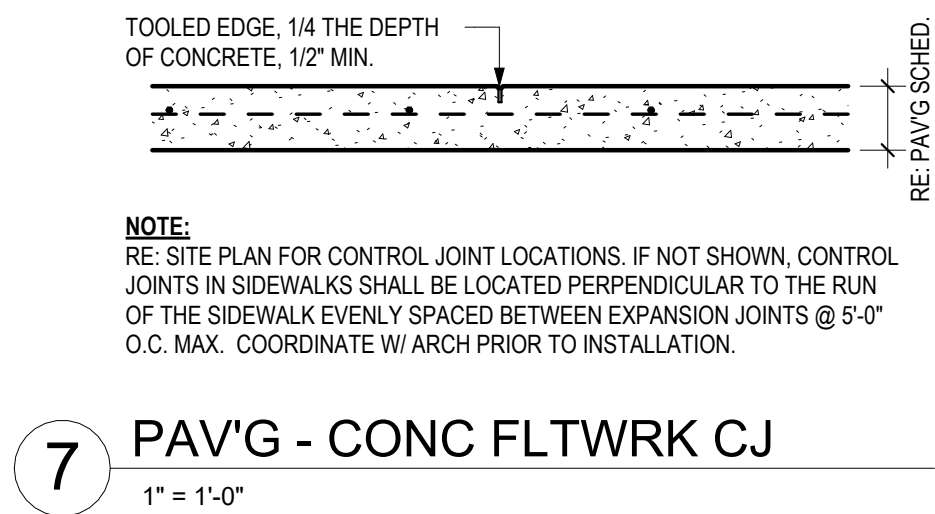
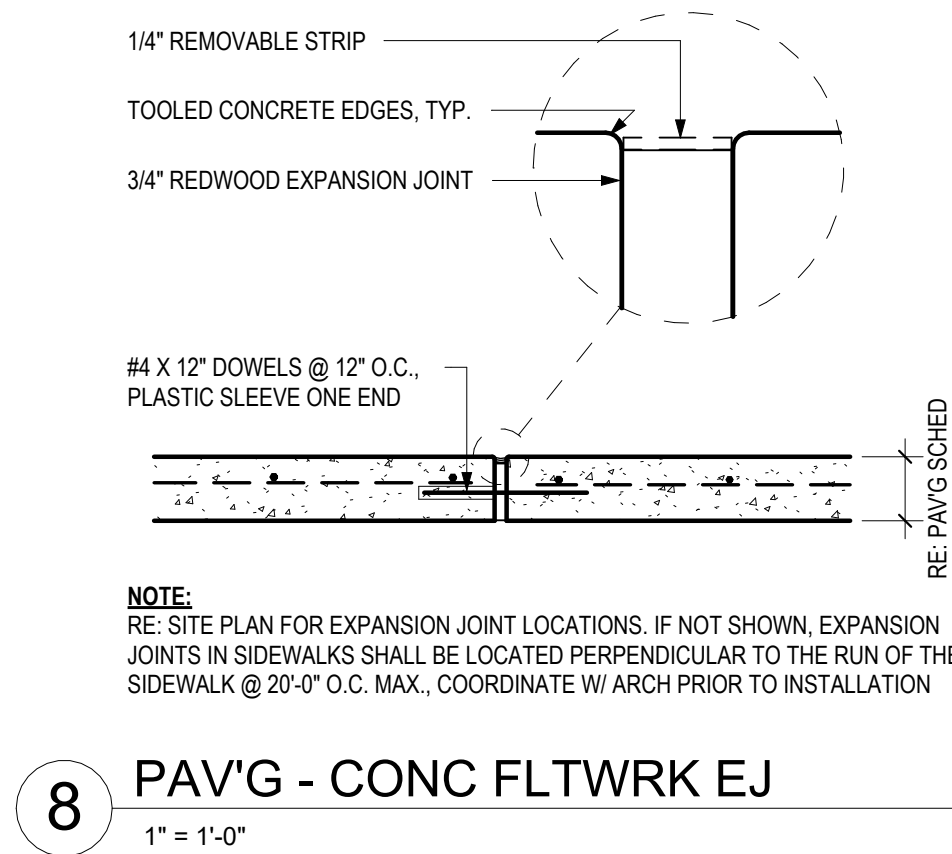


ARCADIS INC.  
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C1.02  
SITE DETAILS





1. DEMOLITION DWGS. INDICATE GENERAL DEMOLITION REQ'D. HOWEVER, THEY DO NOT SHOW SPECIFIC DETAILS OF DEMOLITION. CONTRACTOR SHALL VISIT PROJECT SITE / BLDG. PRIOR TO BIDDING TO ASCERTAIN EXISTING CONDITIONS & SPECIFIC REQ'TS. FOR DEMOLITION WORK & SHALL INCLUDE ALL COSTS ASSOCIATED W/ DEMOLITION, EXCEPTING CONDITIONS THAT COULD NOT BE DETERMINED WITHOUT DESTRUCTIVE INVESTIGATION. COORDINATE W/ ARCH. & OWNER W/ RESPECT TO VISITATION SCHEDULE.
2. RE. CIVIL, STRUC. & MEP DWGS. FOR DEMOLITION REQ'TS. PARTICULAR TO THE OTHER CONSULTING DISCIPLINES, THE CONTRACTOR SHALL BE RESPONSIBLE TO ASCERTAIN THE INTERRELATIONSHIPS OF ALL REQ'D. DEMOLITION & INCLUDE ALL ASSOCIATED COSTS IN THE PROPOSAL.
3. PRIOR TO STARTING DEMOLITION WORK, FIELD VERIFY ALL EXISTING CONDITIONS. NOTIFY THE ARCH. OF ANY ISSUES AND/ OR CONCEALED CONDITIONS THAT MAY PREVENT IMPLEMENTATION & PROGRESS OF DEMOLITION WORK. DO NOT PROCEED UNTIL SUCH ISSUES ARE FULLY RESOLVED.
4. FOR DEMOLITION CONDUCTED WITHIN AN OPERATIONAL BLDG., CONTRACTOR SHALL COORD. W/ ARCH. & OWNER REGARDING SCHEDULING AND/ OR DISRUPTIVE NOISE ISSUES. IF REQ'D. TO MAINTAIN ONGOING OPERATION OF THE BLDG., CONTRACTOR SHALL BE PREPARED TO PERFORM DISRUPTIVE DEMOLITION OUTSIDE NORMAL HOURS OF OPERATION.
5. IF NOT INDICATED IN THE CONTRACT DOCUMENTS, COORD. W/ ARCH. & OWNER FOR DISPOSITION OF EXISTING FIXTURES, FURNITURE & EQUIP. (FF&E).
6. OWNER SHALL RETAIN THE RIGHT TO RECEIVE & SALVAGE ANY EXISTING WORK SHOWN TO BE DEMOLISHED AND/ OR REMOVED. CONFIRM W/ OWNER IF ANY MATERIALS ARE TO BE SALVAGED PRIOR TO THE START OF ANY DEMOLITION WORK. COORD. W/ OWNER FOR TRANSFER OF SALVAGED MATERIALS.
7. CONTRACTOR SHALL USE ALL MEANS NECESSARY TO PROTECT EXISTING WORK INDICATED TO REMAIN. IN CASE OF DAMAGE DURING DEMOLITION AND/ OR NEW WORK CONSTRUCTION, CONTRACTOR SHALL REPAIR AND/ OR REPLACE SUCH EXISTING WORK BACK TO ORIGINAL CONDITION, SUBJECT TO ACCEPTANCE BY THE ARCH. SIMILARLY, CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF RESTRICTING DISTRIBUTION OF DUST & OTHER DEMOLITION CONTAMINANTS FROM SPREADING INTO AREAS OUTSIDE OF DEMOLITION AREA(S).
8. WHERE EXISTING WORK IS INDICATED TO BE REMOVED & REINSTALLED, CONTRACTOR SHALL USE ALL MEANS NECESSARY TO REMOVE THE WORK WITHOUT DAMAGE. SUFFICIENTLY STORE THE WORK TO PREVENT LOSS OR DAMAGE & CAREFULLY REINSTALL THE WORK AS INDICATED ON THE DWGS. IN CASE OF DAMAGE, CONTRACTOR SHALL REPAIR AND/ OR REPLACE SUCH EXISTING WORK BACK TO ORIGINAL CONDITION, SUBJECT TO ACCEPTANCE BY THE ARCH.
9. ALL EXISTING CONCRETE SLABS TO BE REMOVED IN ORDER FOR DEMOLITION OF UNDER SLAB WORK SHALL BE SAW-CUT. MAINTAIN INTEGRITY OF EXISTING VAPOR MEMBRANE AS REQ'D. FOR RECONNECTION TO NEW VAPOR BARRIER UNDER SAW-CUT AREA.
10. ALL EXISTING PLUMBING WORK SHOWN TO BE ABANDONED SHALL BE REMOVED & CAPPED 2" BELOW SLAB OR BACK TO WITHIN A WALL. SLABS & WALLS SHALL BE REPAIRED FLUSH W/ ADJACENT SURFACES.
11. WHERE NEW OPENING ARE TO BE INSTALLED IN EXISTING WALLS / PARTITIONS, LIMITS OF DEMOLITION SHALL BE BEYOND OPENING SIZE AS REQ'D. TO PROPERLY CONSTRUCT ROUGH OPENINGS IN ACCORDANCE W/ NEW OPENING DETAILS INDICATED ON THE DWGS. REBUILD & OR PATCH ADJACENT AREAS TO NEW OPENING AS REQ'D. FOR FLUSH INTERFACE W/ EXISTING WORK TO REMAIN.
12. IN AREAS WHERE EXISTING FINISH FLOORING IS TO BE REMOVED, REMOVE FLOORING MATERIALS & ANY ADHESIVES DOWN TO THE CONCRETE SLAB. MAINTAIN SLAB IN A SUITABLE CONDITION FOR INSTALLATION OF NEW SCHEDULED FLOORING MATERIALS.
13. IN AREAS WHERE EXISTING WORK IS TO RECEIVE A NEW FINISH, CONTRACTOR SHALL REPAIR, PATCH AND/ OR PREP EXISTING WORK AS REQ'D. FOR PROPER INSTALLATION OF NEW FINISHES IN ACCORDANCE W/ NEW FINISH MANUFACTURER'S REQ'TS. VERIFY ALL CONDITIONS & COORD. AS REQ'D.

NOTE: DEMO FURRING, GYP. AND INSULATION AT EXTERIOR WALL. PREP FOR NEW CONT. FURRING WALL TO STRUCTURE. PROTECT OR REPAIR EXISTING WALLS THAT INTERSECT DEMO SCOPE.

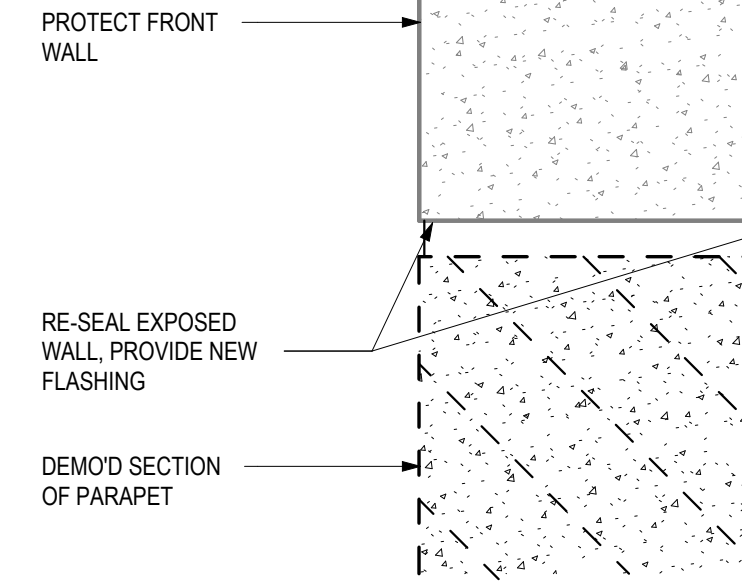
### NOTES - GENERAL FLOOR PLAN - DEMO

1/4" = 1'-0"

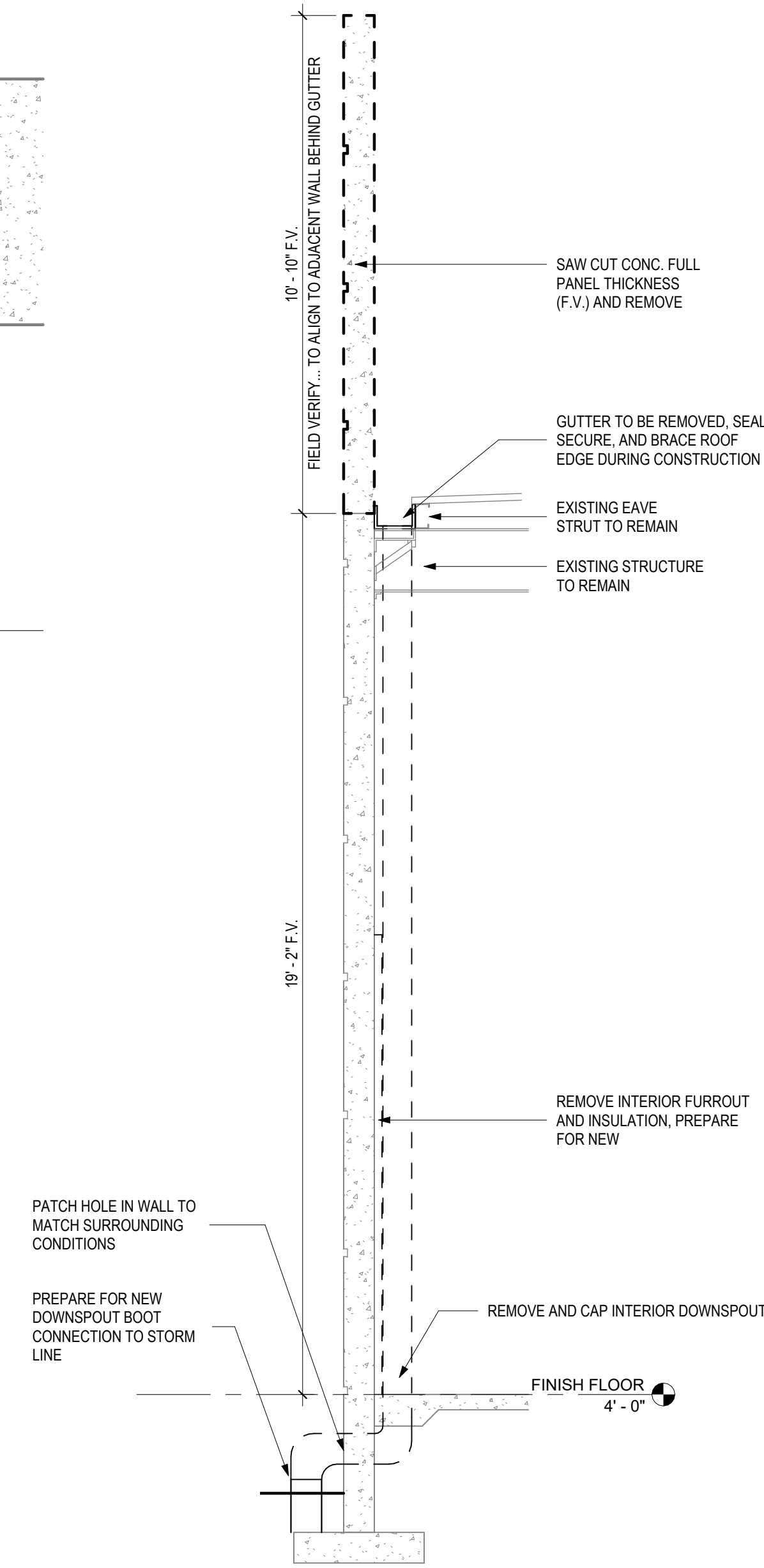
1. REMOVE PORTION OF EXISTING PARTITION. CLEAN/ PREP/ FINISH REMAINING SURFACES FOR NEW DOOR.
2. REMOVE EXISTING CASEWORK IN ITS ENTIRETY. CLEAN/ PREP/ FINISH REMAINING SURFACES TO MATCH ADJACENT CONDITIONS.
3. REMOVE EXISTING FLOORING. CLEAN/ PREP/ FINISH REMAINING SURFACES TO MATCH ADJACENT CONDITIONS.
4. REMOVE EXISTING CEILING TILES & GRID IN THEIR ENTIRETY. CLEAN/ PREP/ FINISH REMAINING SURFACES TO MATCH ADJACENT CONDITIONS.
5. REMOVE EXISTING SLIDING WINDOW AND COUNTERTOP. CLEAN/ PREP/ FINISH REMAINING SURFACES TO MATCH ADJACENT CONDITIONS.
6. CAREFULLY REMOVE EXISTING FLOORING & SLAB FOR NEW PLUMBING UTILITIES AS REQ'D. (SHOWN HATCHED) RE. PLUMB.
7. REMOVE EXISTING PLUMB. FIXTURE AND ALL BATHROOM ACCESSORIES IN ITS ENTIRETY. CLEAN/ PREP/ FINISH REMAINING SURFACES TO MATCH ADJACENT CONDITIONS. CAP PLUMB. AS REQ'D BY MEP.
8. REMOVE EXISTING FLR. SINK. CLEAN/ PREP/ FINISH REMAINING SURFACES TO MATCH ADJACENT CONDITIONS. CAP PLUMB. AS REQ'D. BY MEP.
9. REMOVE EXISTING TOILET PARTITIONS IN THEIR ENTIRETY. CLEAN/ PREP/ FINISH REMAINING SURFACES TO MATCH ADJACENT CONDITIONS.
10. REMOVE EXISTING DOOR FRAME. CLEAN/ PREP/ FINISH REMAINING SURFACES FOR INSTALL. OF NEW FRAME.
11. REMOVE EXISTING DOOR FRAME. CLEAN/ PREP/ FINISH REMAINING SURFACES FOR PATCH OF WALL.
12. REMOVE EXISTING SINK, CAP PLUMB. AS REQ'D BY MEP.
13. REMOVE AND STORE AED CABINET FOR REINSTALLATION. PATCH WALL AS NEEDED TO MATCH SURROUNDING NEW CONDITION.
14. REMOVE AND STORE BLEEDING KIT CABINET FOR REINSTALLATION. PATCH WALL AS NEEDED TO MATCH SURROUNDING NEW CONDITION.
15. STRIP SEALER OFF EXISTING SEALED CONCRETE AND PREP FOR NEW SEALER, RE. SPECS.
16. REMOVE AND DISPOSE OF CEILING MOUNTED PROJECTOR.
17. REMOVE INTERIOR DOWNSPOUT AND FURROUT, CAP OPENING AT FLOOR.
18. REMOVE EXISTING DOOR AND FRAME, PREPARE TO RECEIVE NEW FRAME.
19. SAWCUT EXISTING SLAB AS NEEDED TO INSTALL NEW DRAIN LINES AND FLOOR DRAINS. RE. PLUMBING FOR SCOPE, 15 / A3.01 & 16 / A3.01
20. DEMO EXISTING MEP EQUIPMENT AND CONCRETE PAD.

### KEYNOTES - FLOOR PLAN - DEMO

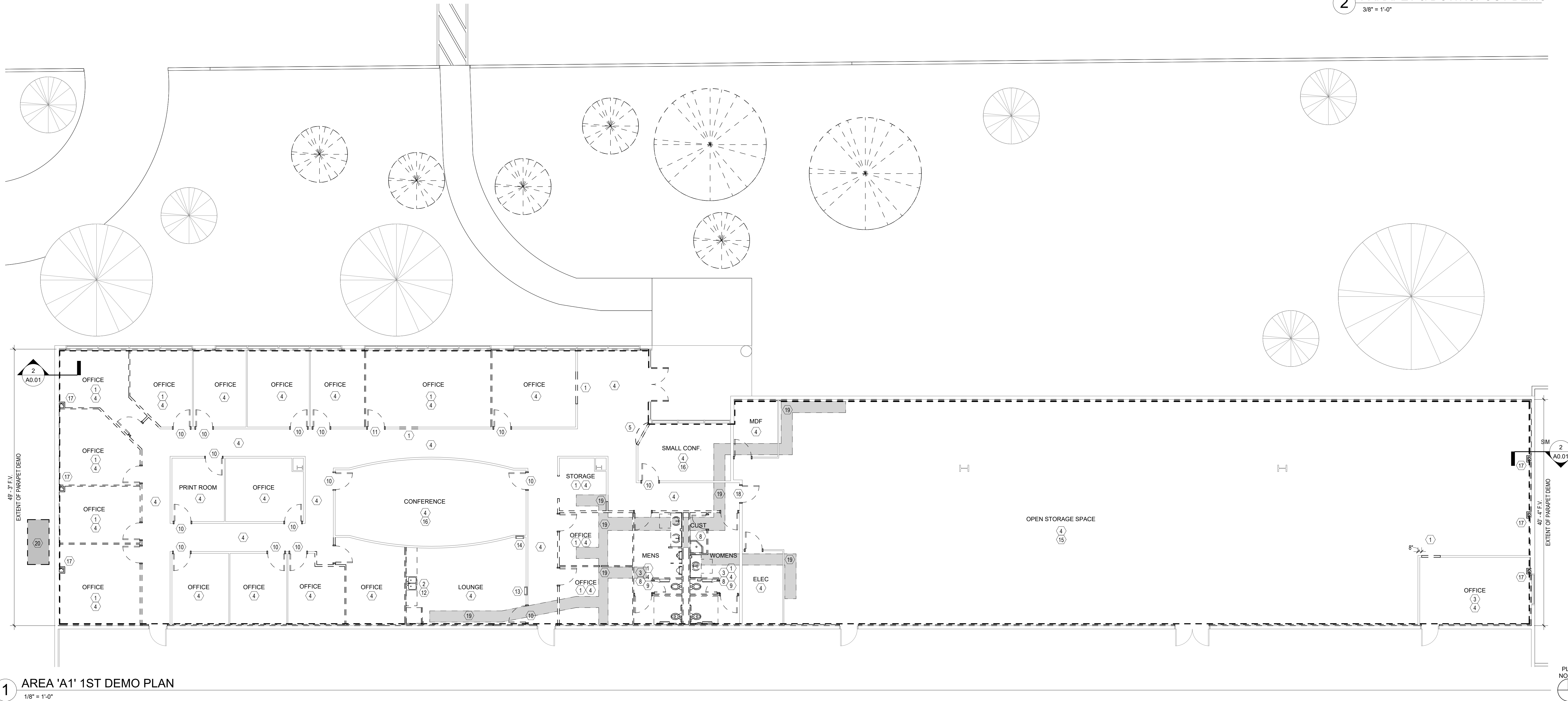
1/4" = 1'-0"



3 WALL - EXT TILT @ CORNER  
3" = 1'-0"



2 PARAPET & DOWNSPOUT DEMO  
3/8" = 1'-0"



1 AREA 'A1' 1ST DEMO PLAN  
1/8" = 1'-0"

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#### PROJECT SCOPE

WAREHOUSE  
(NO SCOPE)

## TISD INNOVATION CENTER BLDG. 4 RENOVATION

Tomball ISD

11211 Farm to Market 2920, Tomball, TX 77375

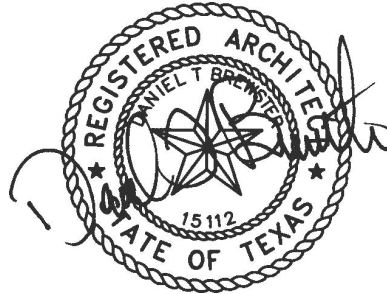


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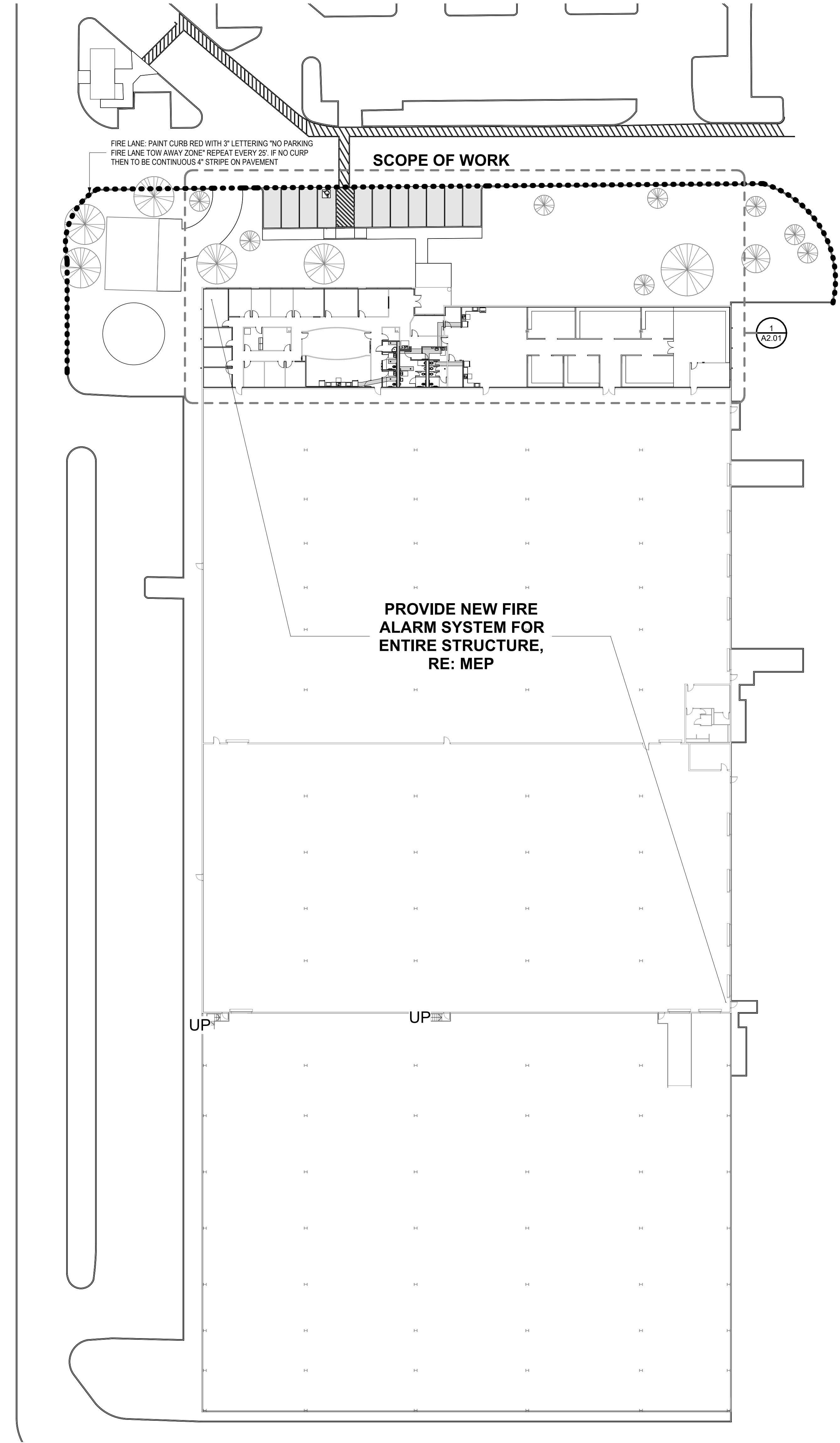
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## A0.01

AREA 'A1' 1ST  
DEMO PLAN





1 1ST FLOOR COMPOSITE PLAN  
1" = 30'-0"

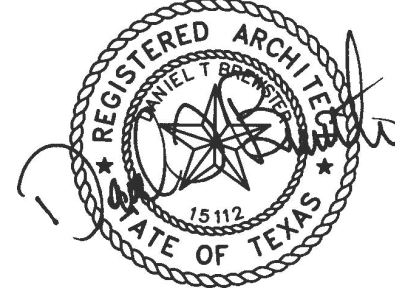
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PROJECT SCOPE  
WAREHOUSE  
(NO SCOPE)

TISD INNOVATION CENTER  
BLDG. 4 RENOVATION

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ARCADIS  
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A1.00  
COMPOSITE  
PLAN





- AREA 'A1' 1ST  
FLOOR PLAN

PLAN  
NORTH



AREA 'A1' - ROOM FINISH SCHEDULE									
ROOM #	ROOM NAME	FLOOR FINISHES		WALL FINISH(S)		CEILING FINISH(S)		COMMENTS	ROOM #
		FLOOR	BASE	COOR.	W/ A7 & A11	COOR.	WIA10		
1000	ENTRY	LVT-1, WM-1	RB-1	PT-1.3					1000
1000.1	CORR.	LVT-1	RB-1	PT-1					1000.1
1000.2	CORR.	LVT-1	RB-1	PT-1					1000.2
1000.3	CORR.	LVT-1	RB-1	PT-1					1000.3
1000.4	CORR.	LVT-1	RB-1	PT-1					1000.4
1000.5	CORR.	LVT-1	RB-1	PT-1					1000.5
1001	RECP.	CPT-1	RB-1	PT-1.3					1001
1002	OFFICE	CPT-1	RB-1	PT-1.3					1002
1003	OFFICE	CPT-1	RB-1	PT-1.3					1003
1004	OFFICE	LVT-1	RB-1	PT-1.3					1004
1005	OFFICE	LVT-1	RB-1	PT-1.3					1005
1006	OFFICE	LVT-1	RB-1	PT-1.3					1006
1007	OFFICE	LVT-1	RB-1	PT-1.3					1007
1008	PRINTER	LVT-1	RB-1	PT-2					1008
1009	OFFICE	LVT-1	RB-1	PT-1.3					1009
1010	OFFICE	LVT-1	RB-1	PT-1.3					1010
1011	OFFICE	LVT-1	RB-1	PT-1.3					1011
1012	OFFICE	LVT-1	RB-1	PT-1.3					1012
1013	OFFICE	LVT-1	RB-1	PT-1.3					1013
1014	OFFICE	LVT-1	RB-1	PT-1.3					1014
1015	OFFICE	LVT-1	RB-1	PT-1					1015
1016	LARGE CONFERENCE	CPT-1	RB-1	PT-2.3					1016
1017	LOUNGE	LVT-1	RB-1	PT-2, 3					1017
1018	STORAGE	LVT-1	RB-1	PT-1					1018
1019	CUST.	SC-1	RB-1	PT-1					1019
1020	RESTROOM	TF-1	TB-1	TW-1.4					1020
1021	RESTROOM	TF-1	TB-1	TW-1.4					1021
1022	SMALL CONF.	CPT-1	RB-1	PT-2.3					1022
1023	MENS' RR	TF-1	TB-1	TW-1.2					1023
1024	WOMENS' RR	TF-1	TB-1	TW-1.3					1024
1025	FACILITIES	SC-1	RB-1	PT-1.2					1025
1025.1	HVAC	SC-1	RB-1	PT-1.2					1025.1
1025.2	CARPET/PAINT	SC-1	RB-1	PT-1.2					1025.2
1025.3	GROUND	SC-1	RB-1	PT-1.2					1025.3
1025.4	ELEC.	SC-1	RB-1	PT-1.2					1025.4
1025.5	PLUMB.	SC-1	RB-1	PT-1.2					1025.5
1025.6	COMM.	SC-1	RB-1	PT-1.2					1025.6
1026	MDF	SC-1	RB-1	PT-1					1026
1027	ELEC	SC-1	RB-1	PT-1					1027
1028	LOCKSHOP	SC-1	RB-1	PT-1					1028
1029	OFFICE	LVT-1	RB-1	PT-1					1029

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PROJECT SCOPE

WAREHOUSE  
(NO SCOPE)

AREA 'A1' - DOOR SCHEDULE															
MARK	DOOR SLAB					DOOR FRAME							COMMENTS	MARK	
	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.				
1000-1	3'-0"	8'-10"	PR	AA	ALUM.	G4				ALUM.			RE: WINDOW SCHED. FOR FRAME SIZE & MATERIAL. NEW DOOR, NEW HARDWARE, AND CARD READER	1000-1	
1000.2-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	2"	6"	1	H.M.	3 HR		DOOR AND FRAME E.T.R., SAND AND PREP DOOR AND FRAME FOR NEW PAINT. PROVIDE NEW CLOSER	1000.2-1	
1000.4-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	2"	6"	1	H.M.	3 HR		DOOR AND FRAME E.T.R., SAND AND PREP DOOR AND FRAME FOR NEW PAINT. PROVIDE NEW CLOSER	1000.4-1	
1000.5-1	3'-0"	7'-0"	S	B	H.M.	-	2"	6"	1	H.M.	1.5 HR		NEW DOOR AND FRAME TO ALLOW FOR NEW DOOR SWING. PROVIDE NEW HARDWARE FOR EGRESS DOOR	1000.5-1	
1001-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	2	ALUM.	-		NEW DOOR AND FRAME	1001-1	
1002-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	2	ALUM.	-		NEW DOOR AND FRAME	1002-1	
1003-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	2	ALUM.	-		NEW DOOR AND FRAME	1003-1	
1004-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	2	ALUM.	-		NEW DOOR AND FRAME	1004-1	
1005-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	2	ALUM.	-		NEW DOOR AND FRAME	1005-1	
1006-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	2	ALUM.	-		NEW DOOR AND FRAME	1006-1	
1007-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	2	ALUM.	-		NEW DOOR AND FRAME	1007-1	
1008-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	2	ALUM.	-		NEW DOOR AND FRAME	1008-1	
1009-2	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	1	H.M.	-		NEW DOOR AND FRAME	1009-2	
1009-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	2	ALUM.	-		NEW DOOR AND FRAME	1009-1	
1010-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	2	ALUM.	-		NEW DOOR AND FRAME	1010-1	
1012-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	2	ALUM.	-		NEW DOOR AND FRAME	1012-1	
1013-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	2	ALUM.	-		NEW DOOR AND FRAME	1013-1	
1014-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	2	ALUM.	-		NEW DOOR AND FRAME	1014-1	
1015-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	2	ALUM.	-		NEW DOOR AND FRAME	1015-1	
1016-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	2	ALUM.	-		NEW DOOR AND FRAME	1016-1	
1016-2	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	2	ALUM.	-		NEW DOOR AND FRAME	1016-2	
1017-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	2	ALUM.	-		NEW DOOR AND FRAME	1017-1	
1018-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	1	ALUM.	-		NEW DOOR AND FRAME	1018-1	
1019-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	1	ALUM.	-		NEW DOOR AND FRAME	1019-1	
1020-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	1	ALUM.	-		NEW DOOR AND FRAME	1020-1	
1021-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	1	ALUM.	-		NEW DOOR AND FRAME	1021-1	
1022-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	2	ALUM.	-		NEW DOOR AND FRAME	1022-1	
1023-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	1	ALUM.	-		NEW DOOR AND FRAME	1023-1	
1024-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	1	ALUM.	-		NEW DOOR AND FRAME	1024-1	
1025-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	2"	6"	1	H.M.	3 HR		DOOR AND FRAME E.T.R., SAND AND PREP DOOR AND FRAME FOR NEW PAINT. PROVIDE NEW CLOSER	1025-1	
1025-2	3'-0"	7'-0"	PR	BB	S.C.P.L.	-	2"	6"	1	H.M.	3 HR		DOOR AND FRAME E.T.R., SAND AND PREP DOOR AND FRAME FOR NEW PAINT. PROVIDE NEW CLOSER	1025-2	
1026-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	2	ALUM.	-		NEW DOOR AND FRAME. PROVIDE CARD READER	1026-1	
1027-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	1'3/4"	4 1/2"	2	ALUM.	-		NEW DOOR AND FRAME	1027-1	
1028-1	3'-0"	6'-0"	PR	LL	WIRE MESH	-				GALV.	-		NEW WIRE MESH DOOR	1028-1	
1029-1	3'-0"	7'-0"	S	B	S.C.P.L.	-	2"	6"	1	H.M.	3 HR		DOOR AND FRAME E.T.R., SAND AND PREP DOOR AND FRAME FOR NEW PAINT. PROVIDE CARD READER. PROVIDE NEW CLOSER AND ELECTRONIC PANIC DEVICE	1029-1	
1029-2	3'-0"	7'-0"	S	B	S.C.P.L.	-	2"	6"	1	H.M.	-		NEW DOOR AND FRAME	1029-2	

TISD INNOVATION CENTER  
BLDG. 4 RENOVATION

Tomball ISD

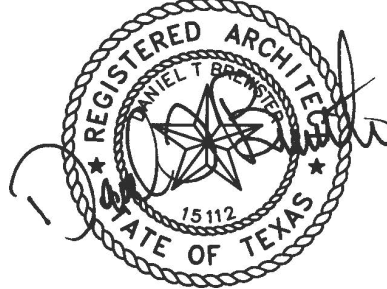
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ARCADIS INC.

1330 POST OAK BOULEVARD, SUITE 2250  
HOUSTON, TX 77056

tel 281.286.6605, fax 713.977.4620



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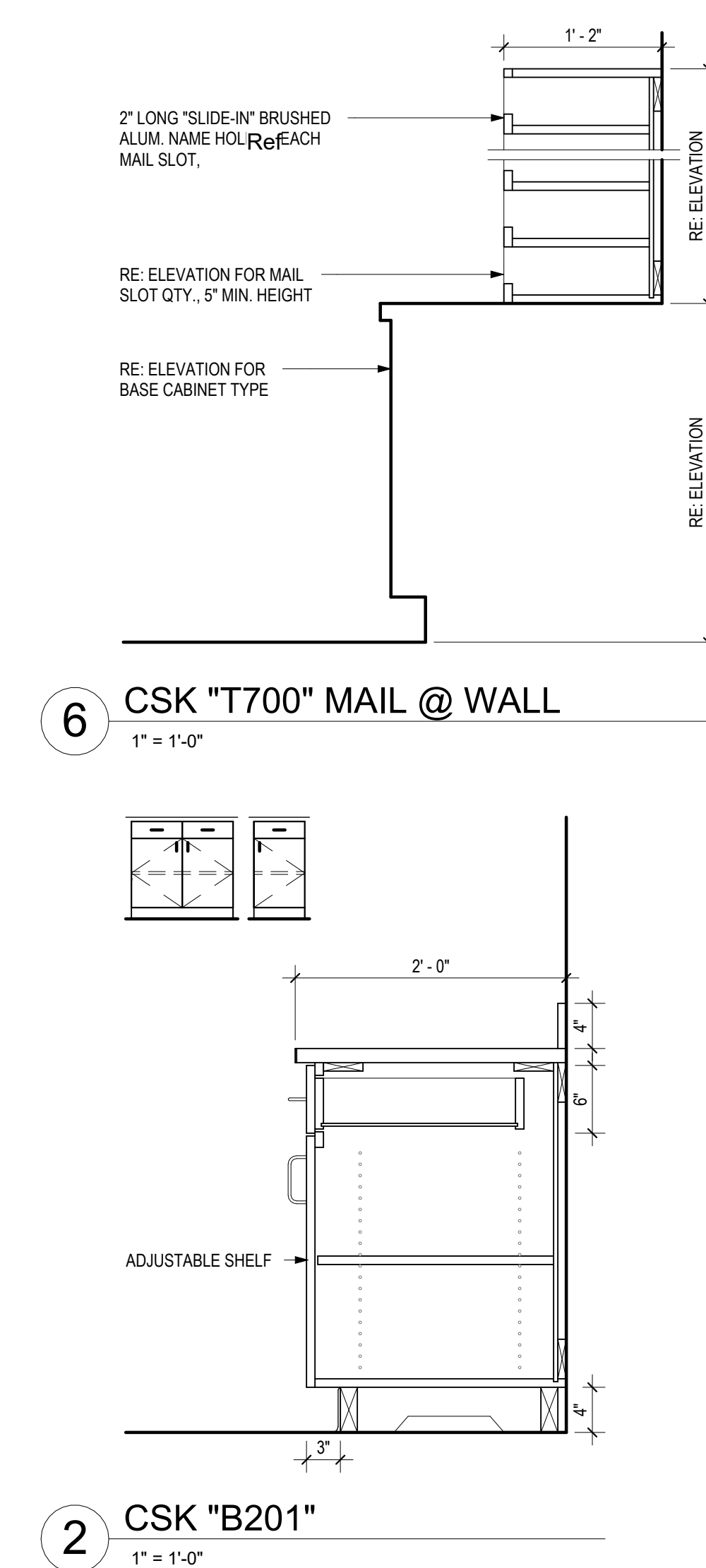
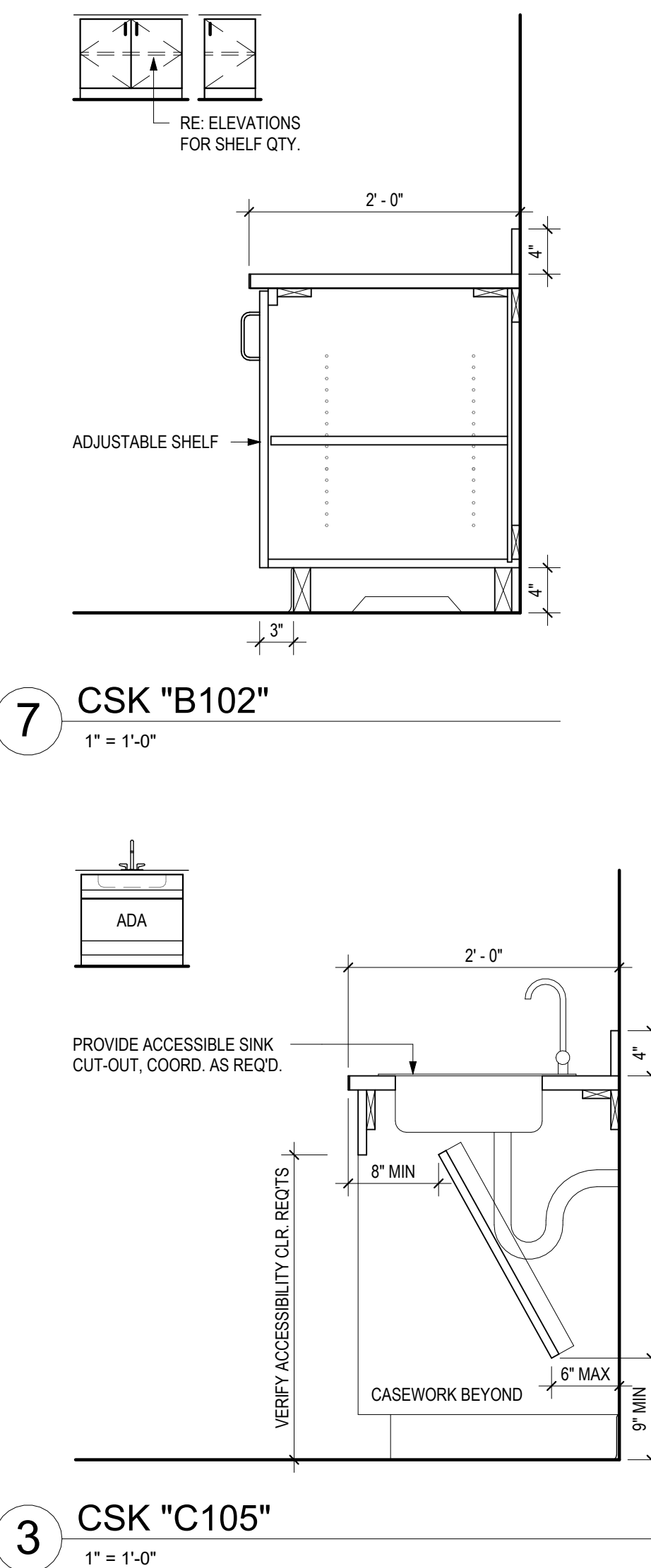
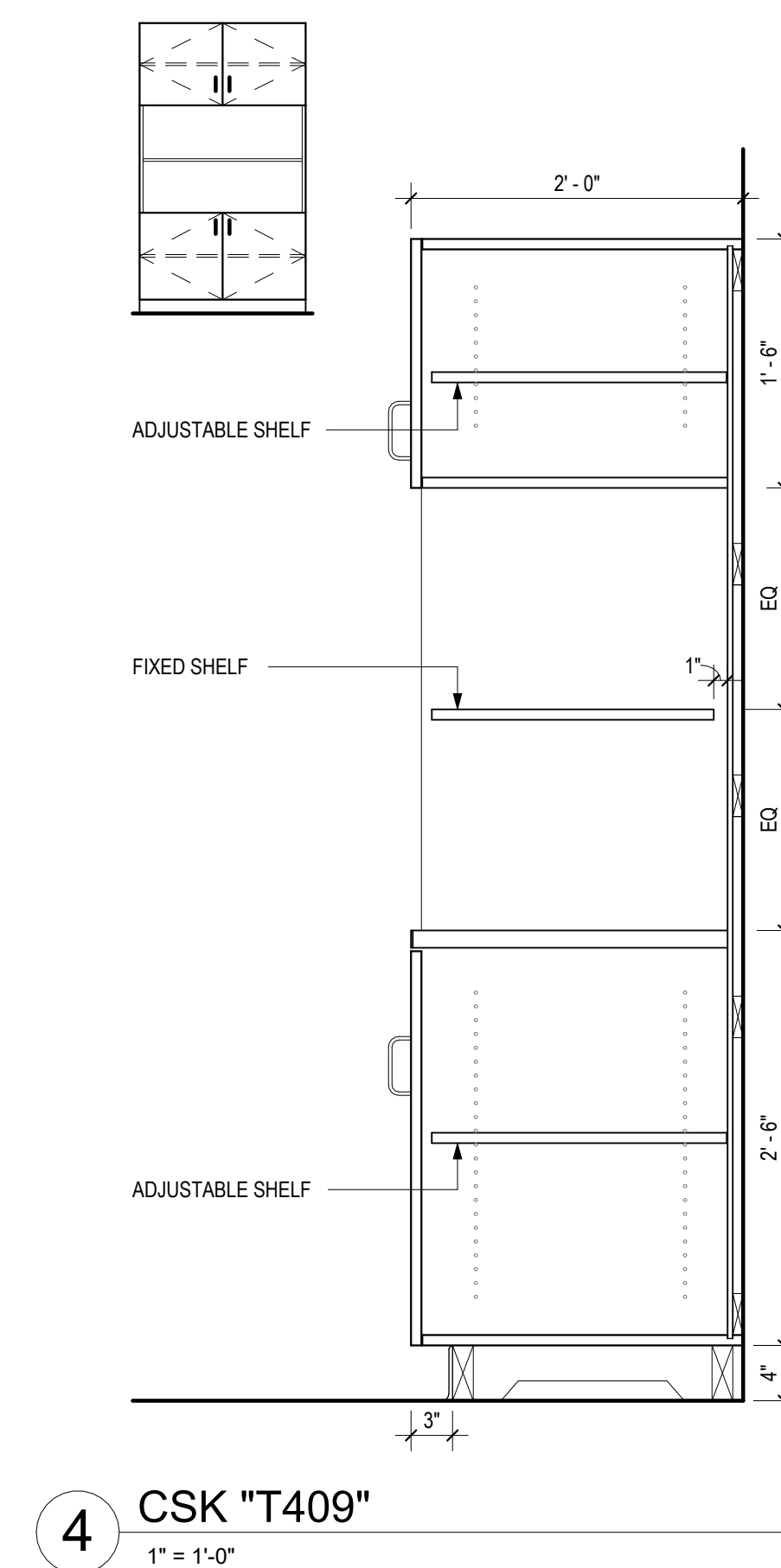
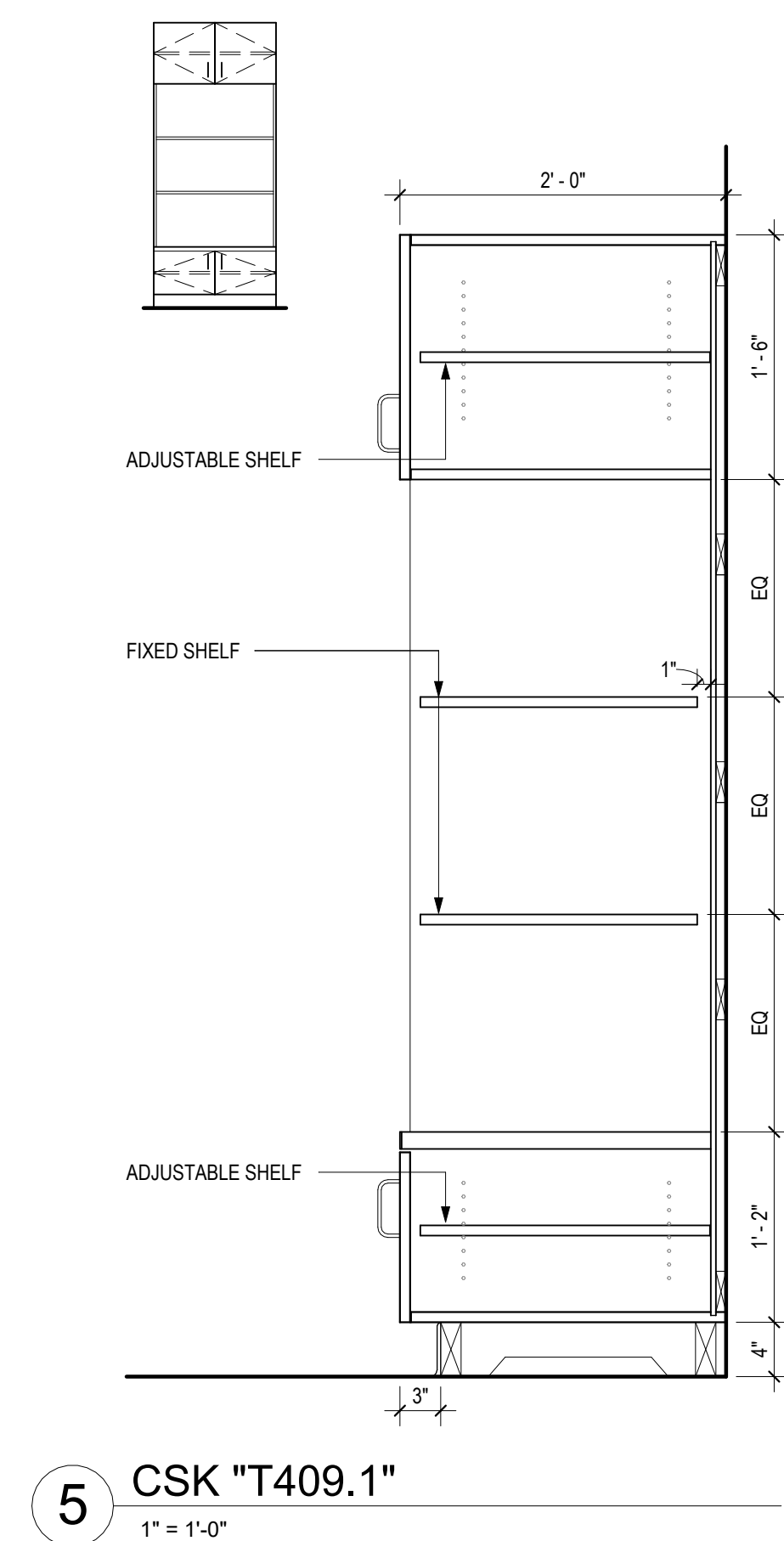
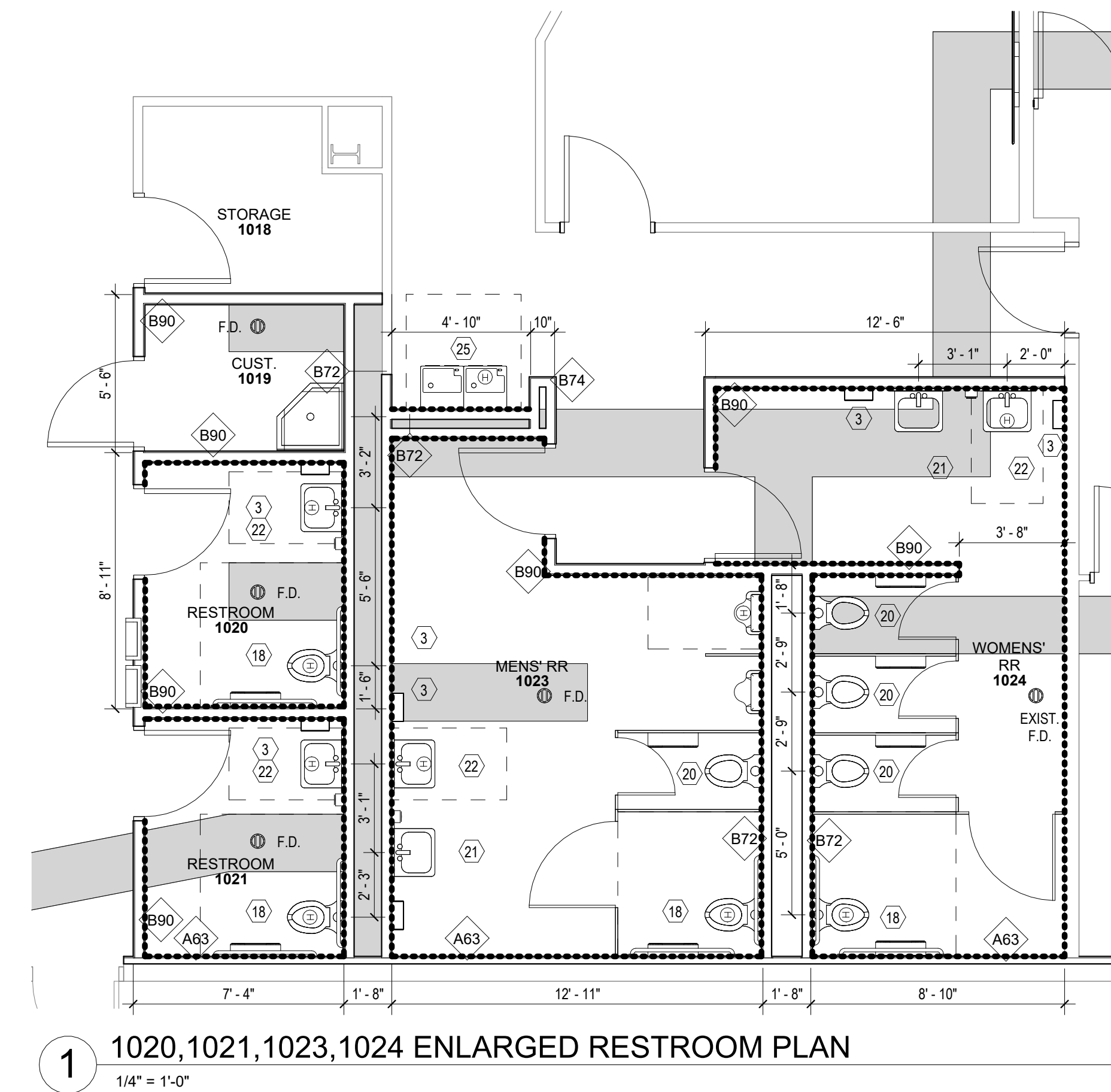
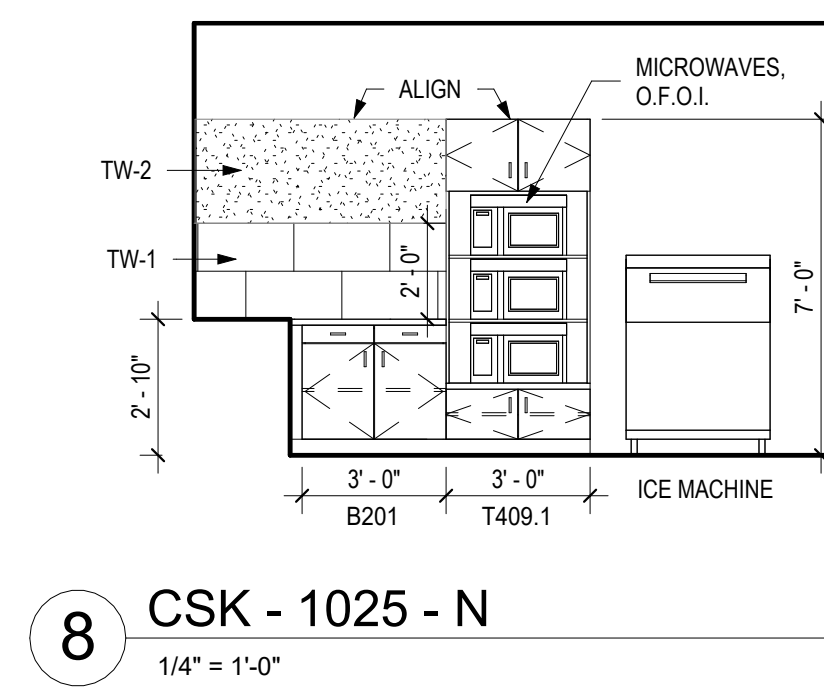
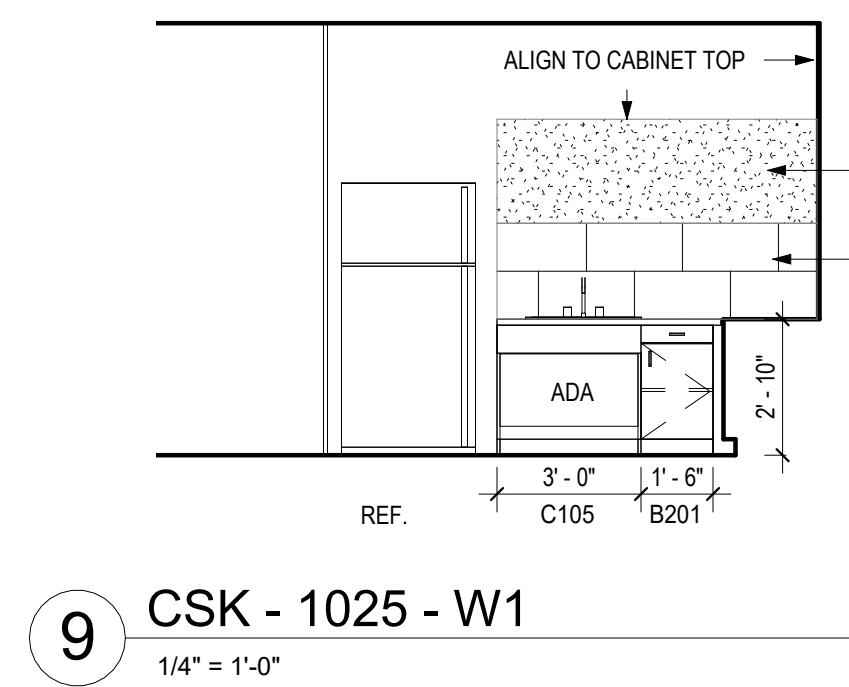
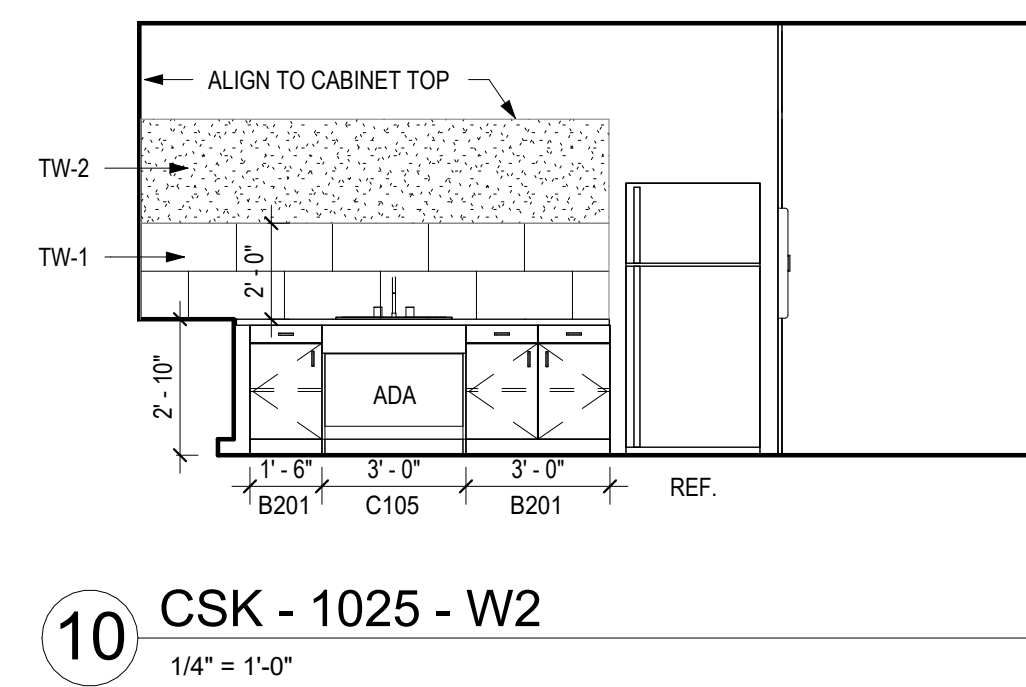
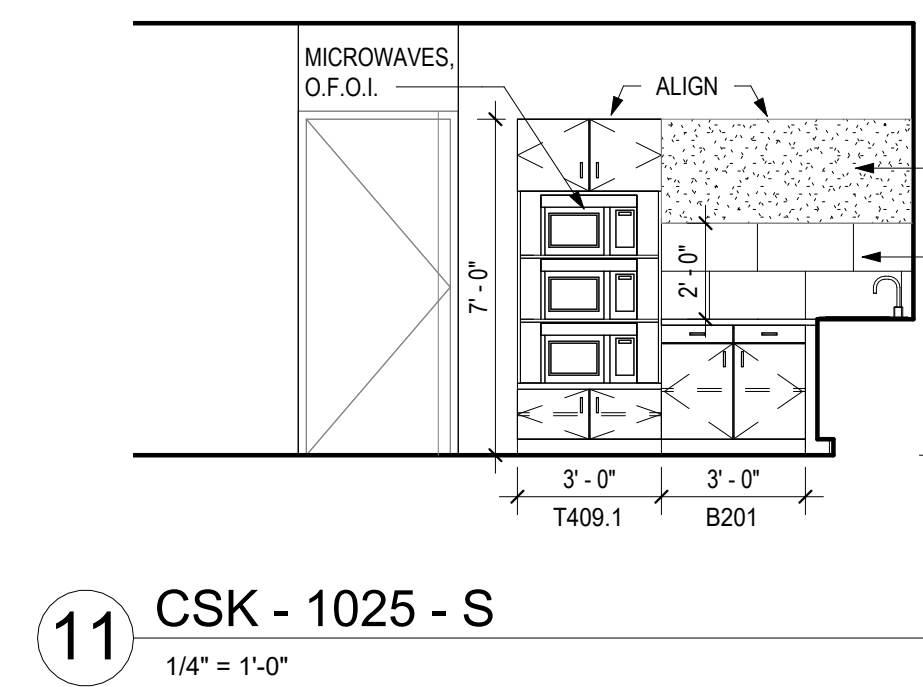
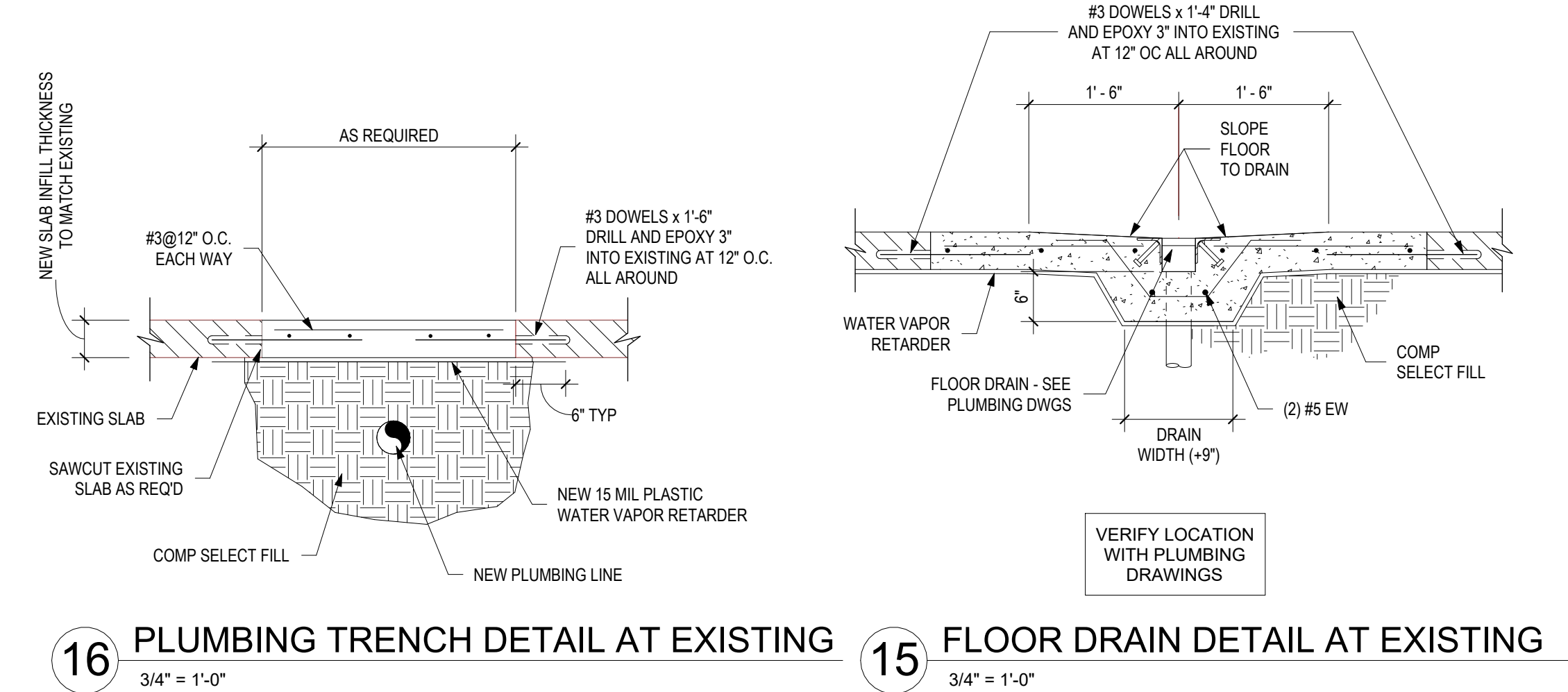
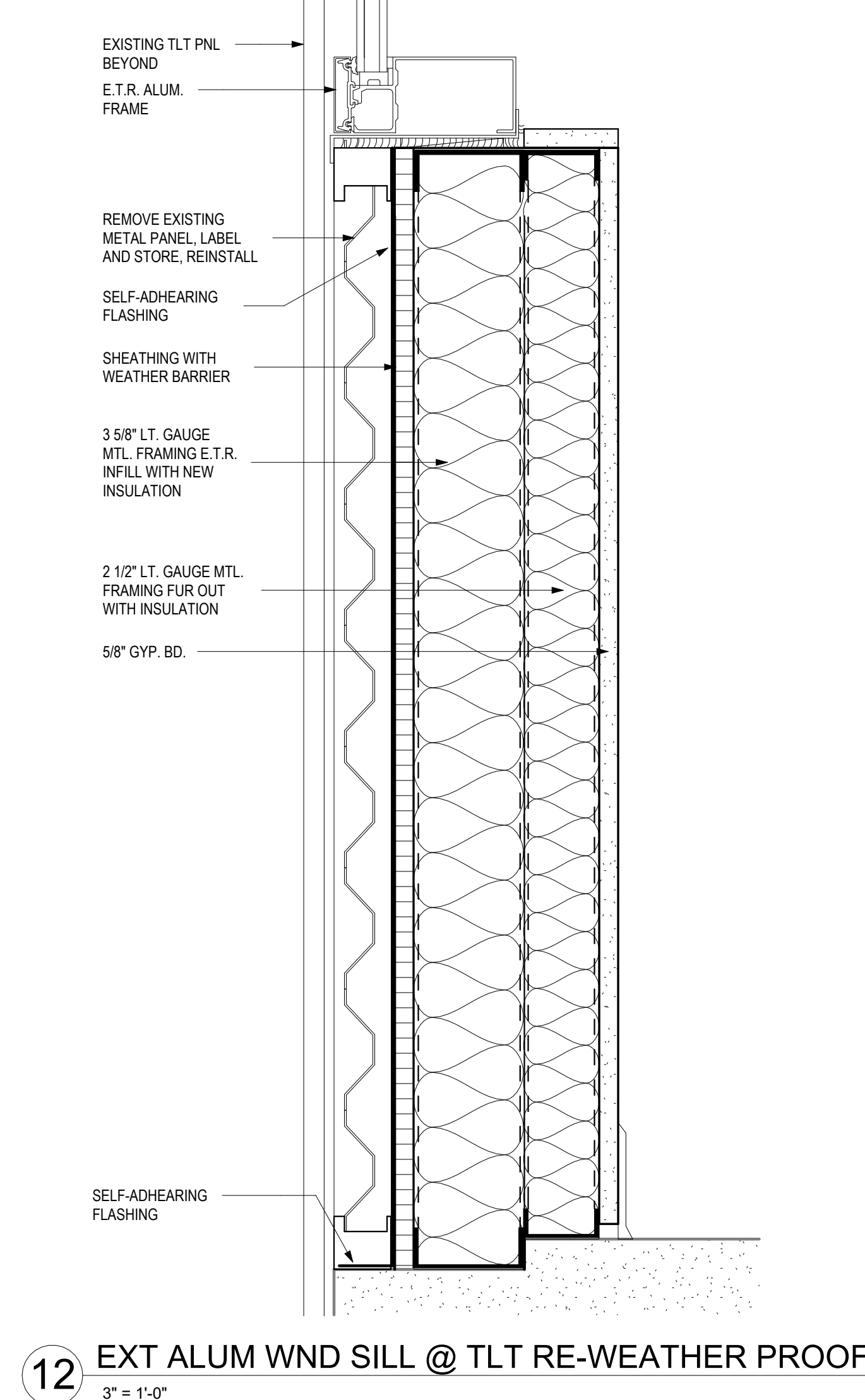
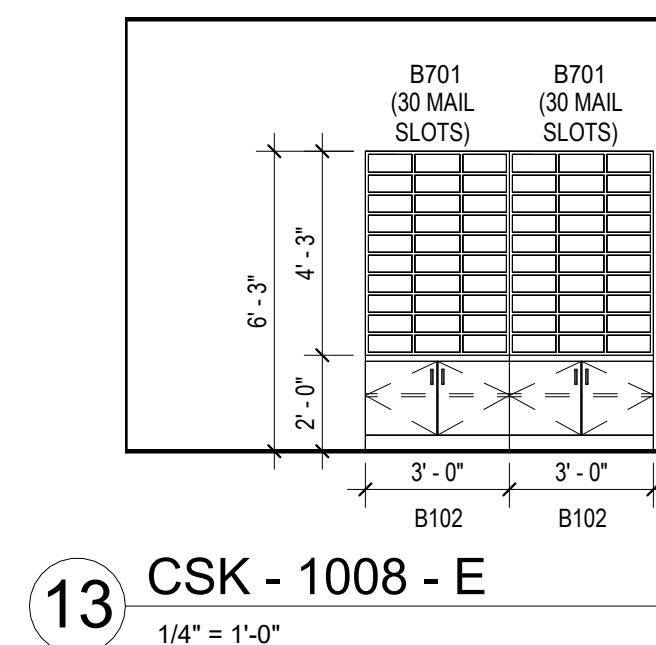
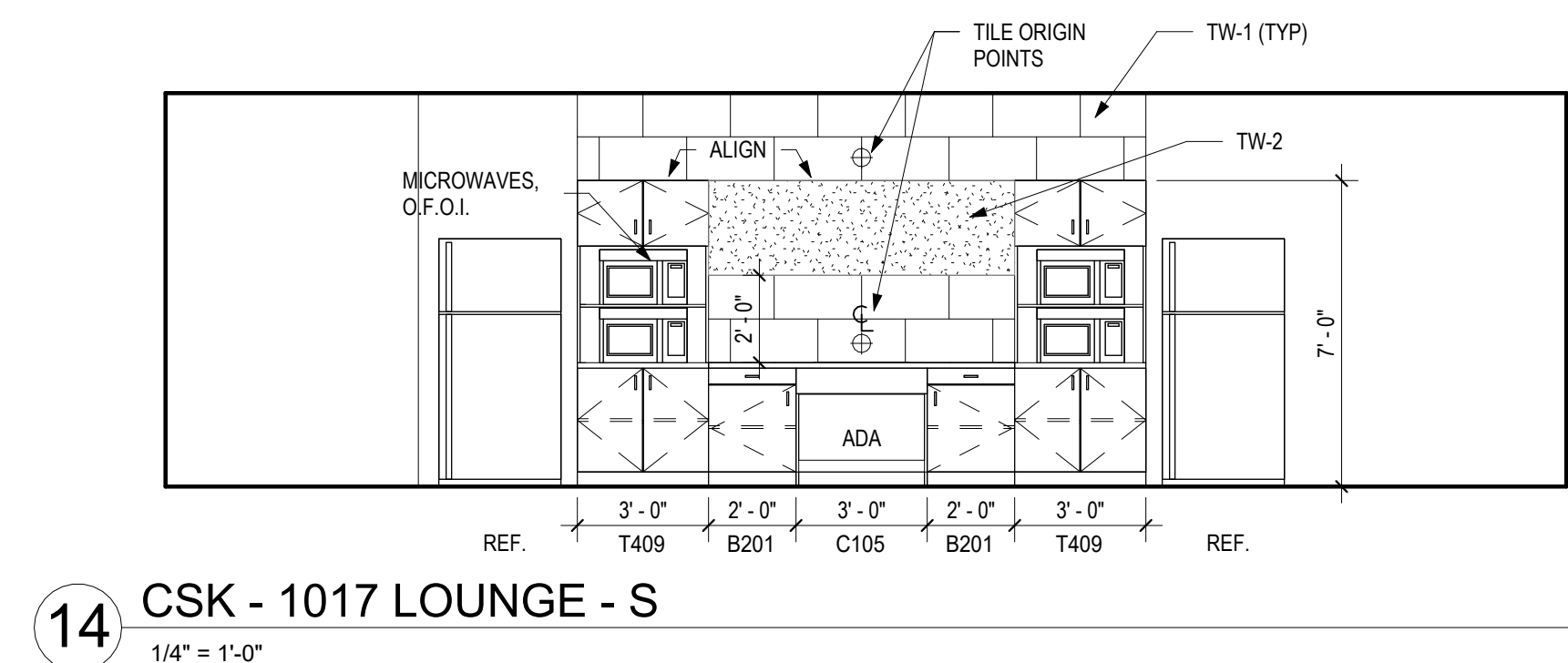
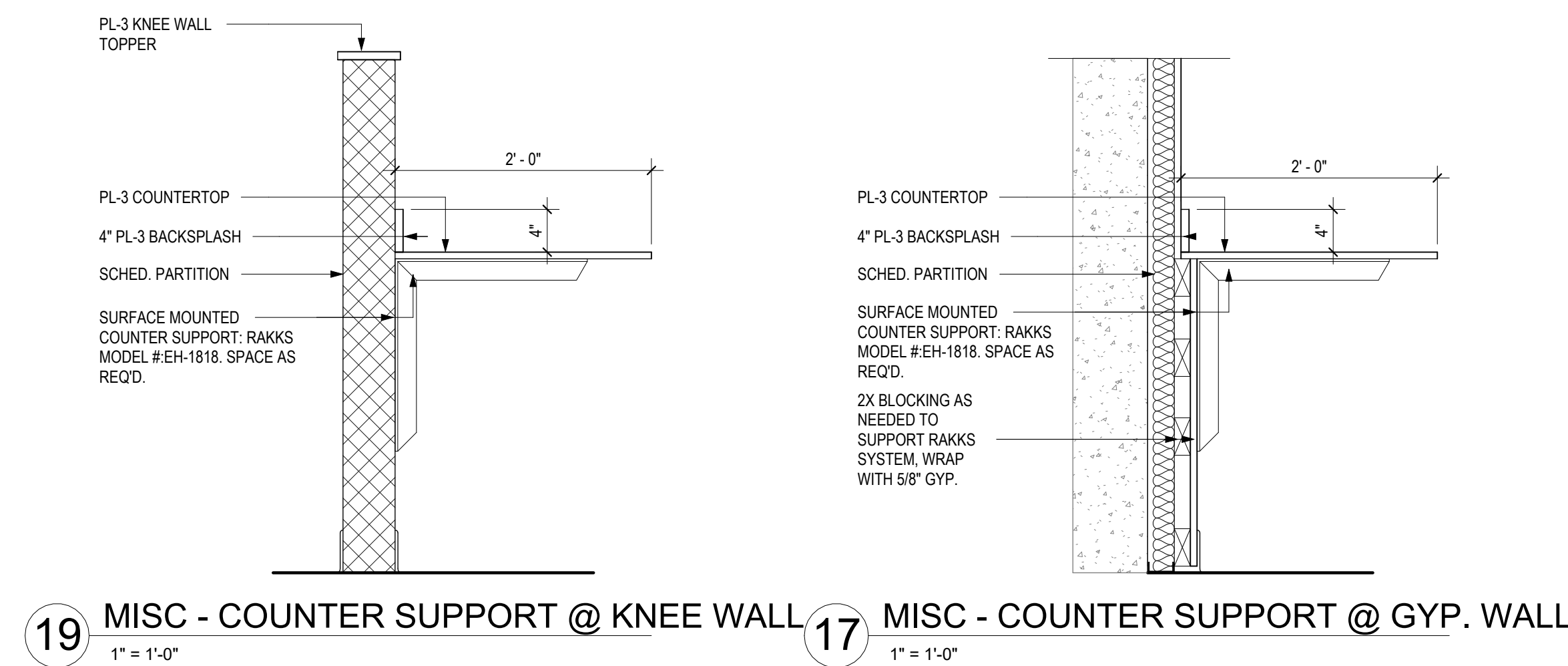
A2.02

SCHEDULES



AREA 'A1' - WINDOW SCHEDULE					
MARK	FRAME			COMMENTS	MARK
	WIDTH	DEPTH	ELEV. MATERIAL		
1000-A	2'11/4"	6"	1-E	ALUM.	1000-A
1000-B	2'11/4"	6"	3-E	ALUM.	1000-B
1001-A	1'1/2"	4'1/2"	3	ALUM.	1001-A
1002-A	2'11/4"	6"	3-E	ALUM.	1002-A
1005-A	2'11/4"	6"	3-E	ALUM.	1005-A
1007-A	2'11/4"	6"	3-E	ALUM.	1007-A
1022-A	2'11/4"	6"	2-E	ALUM.	1022-A
1029-A	2'11/4"	6"	4-E	ALUM.	1029-A





MARK	DESCRIPTION	CHECK REF.	TYP. TLT. ROOM LAYOUTS
(1)	SOAP DISPENSER	TA-1	
(2)	MIRROR	TA-2	
(3)	PAPER TOWEL DISPENSER (OFCI)	TA-3	
(4)	RECESSED WASH RECEPTACLE	TA-4	
(5)	TOILET TISSUE DISPENSER	TA-5	
(6)	GRAB BARS	TA-6	
(7)	MOP & BROOM HOLDER	TA-7	
(8)	CLOTHES/ TOWEL HOOKS	TA-8	
(9)	FEMININE NAPKIN DISPENSER	TA-9	<p><b>STND. ACCESSIBLE STALL - 18"    AMBULATORY STALL - 19"    TYPICAL STALL - 20"</b></p> <p><b>NOTE:</b></p> <p>1. TA-10 IN FEMALE RESTROOMS ONLY PER SPECS</p> <p>2. GYP. BD. PARTITION DIMENSIONS ARE FROM FACE OF STUD</p>
(10)	FEMININE NAPKIN DISPOSAL	TA-10	
(11)	SHOWER GRAB BARS	TA-11	
(12)	FOLDING BENCH - SHOWER COMPARTMENTS	TA-12	
(13)	SHOWER CURTAINS & RODS	TA-13	
(14)	ELECTRIC HAIR DRYERS	TA-14	
(15)	ELECTRIC HAND DRYERS	TA-15	
(16)	BABY CHANGING STATION	TA-16	
(17)	SHOWER WATER RETAINER	TA-17	
(18)	ACCESSIBLE TOILET STALL	TA-18	
(19)	AMBULATORY TOILET STALL	TA-19	<p><b>ACCESSIBLE SINK - 21"    STND. SINK - 22"</b></p> <p><b>NOTE:</b></p> <p>48" X 48" 22GA S.S. WALL PANEL, TYP. BOTH WALLS</p>
(20)	STANDARD TOILET STALL	TA-20	
(21)	ACCESSIBLE SINK	TA-21	<p>MOP SINK</p>
(22)	STANDARD SINK	TA-22	
(23)	TRANSFER TYPE SHOWER COMPARTMENTS	TA-23	<p><b>MOP SINK - ALL CUST ROOMS &amp; PER PLANS</b></p>
(24)	ROLL-IN SHOWER COMPARTMENTS	TA-24	
(25)	HULO (ELECTRIC) DRINKING FOUNTAIN	TA-25	<p><b>ROLL-IN SHOWER - 24"</b></p> <p><b>NOTE:</b> TA-13 &amp; TA-8 ONLY IN ALL NON-ACCESSIBLE SHOWERS</p>

**CONSULTANTS**

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**STRUCTURAL**  
C.J.G. Engineers  
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PROJECT SCOPE
WAREHOUSE (NO SCOPE)

**TISD INNOVATION CENTER  
BLDG. 4 RENOVATION**

Tomball ISD  
11211 Farm to Market 2920, Tomball, TX 77375

 **ARCADIS**  
**ARCADIS INC.**  
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**HOUSTON, TX 77056**  
**tel 281.286.6605, fax 713.977.4620**



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# A3.01

ENLARGED  
RESTROOM  
PLAN &  
CASEWORK

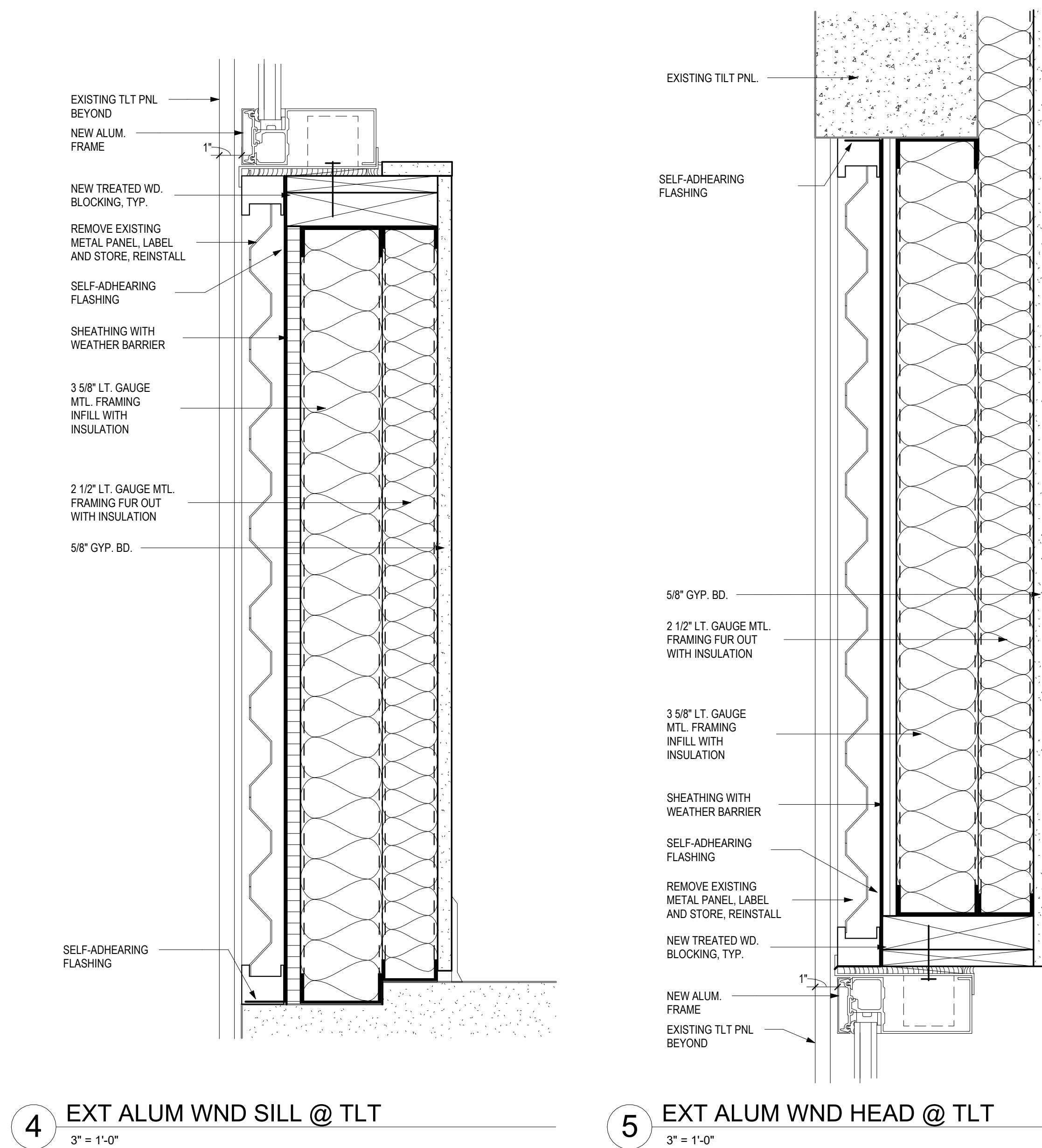


# ALTERNATE 01: REPLACE EXISTING EXTERIOR WINDOWS AND FRAMES

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PROJECT SCOPE  
WAREHOUSE  
(NO SCOPE)

TISD INNOVATION CENTER  
BLDG. 4 RENOVATION  
Tomball ISD  
11211 Farm to Market 2920, Tomball, TX 77375

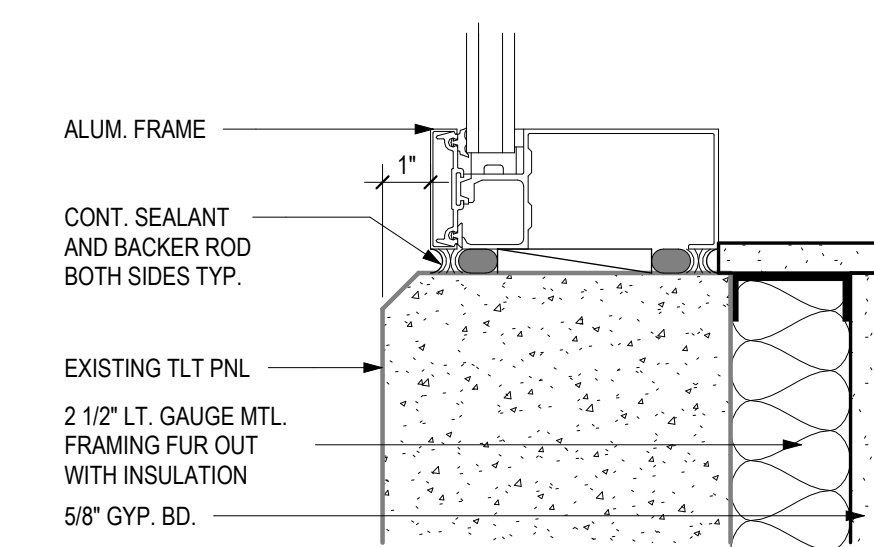


4 EXT ALUM WND SILL @ TLT  
3" = 1'-0"

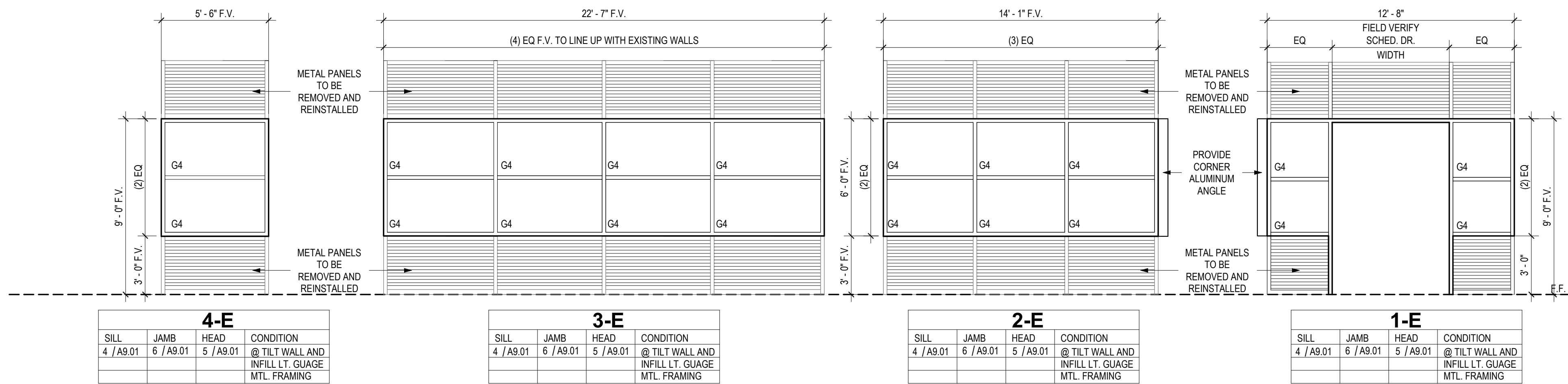
5 EXT ALUM WND HEAD @ TLT  
3" = 1'-0"

6 EXT ALUM WND JAMB @ TLT  
3" = 1'-0"

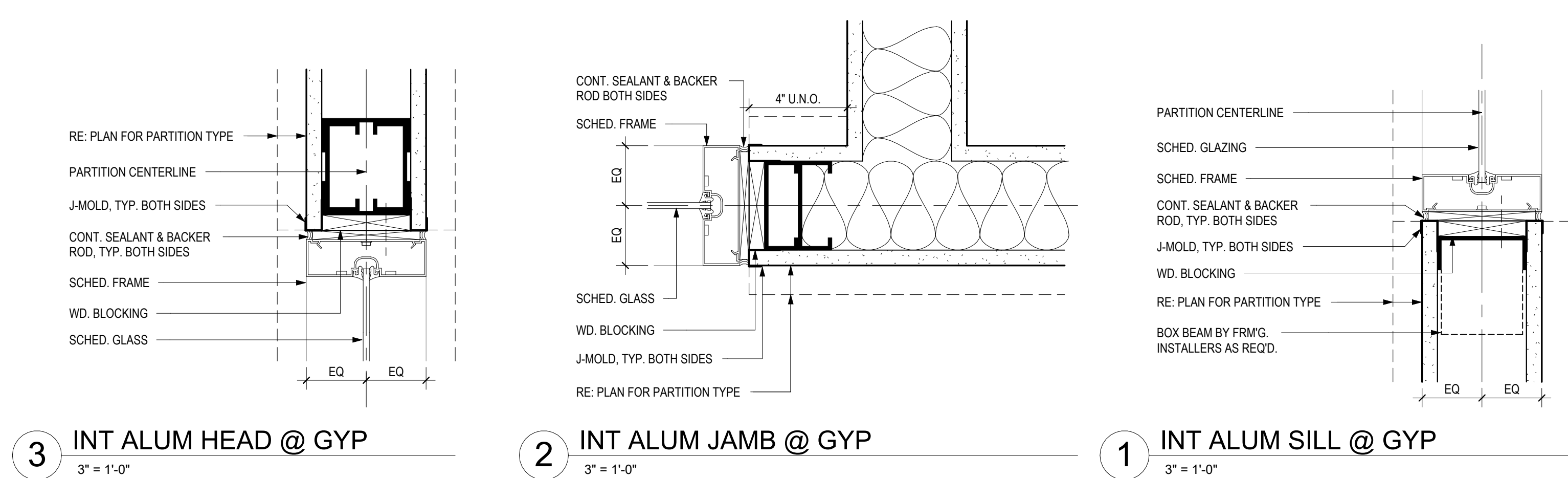
ELEVATIONS - EXTERIOR FRAMES  
1/4" = 1'-0"



6 EXT ALUM WND JAMB @ TLT  
3" = 1'-0"



ELEVATIONS - EXTERIOR FRAMES  
1/4" = 1'-0"

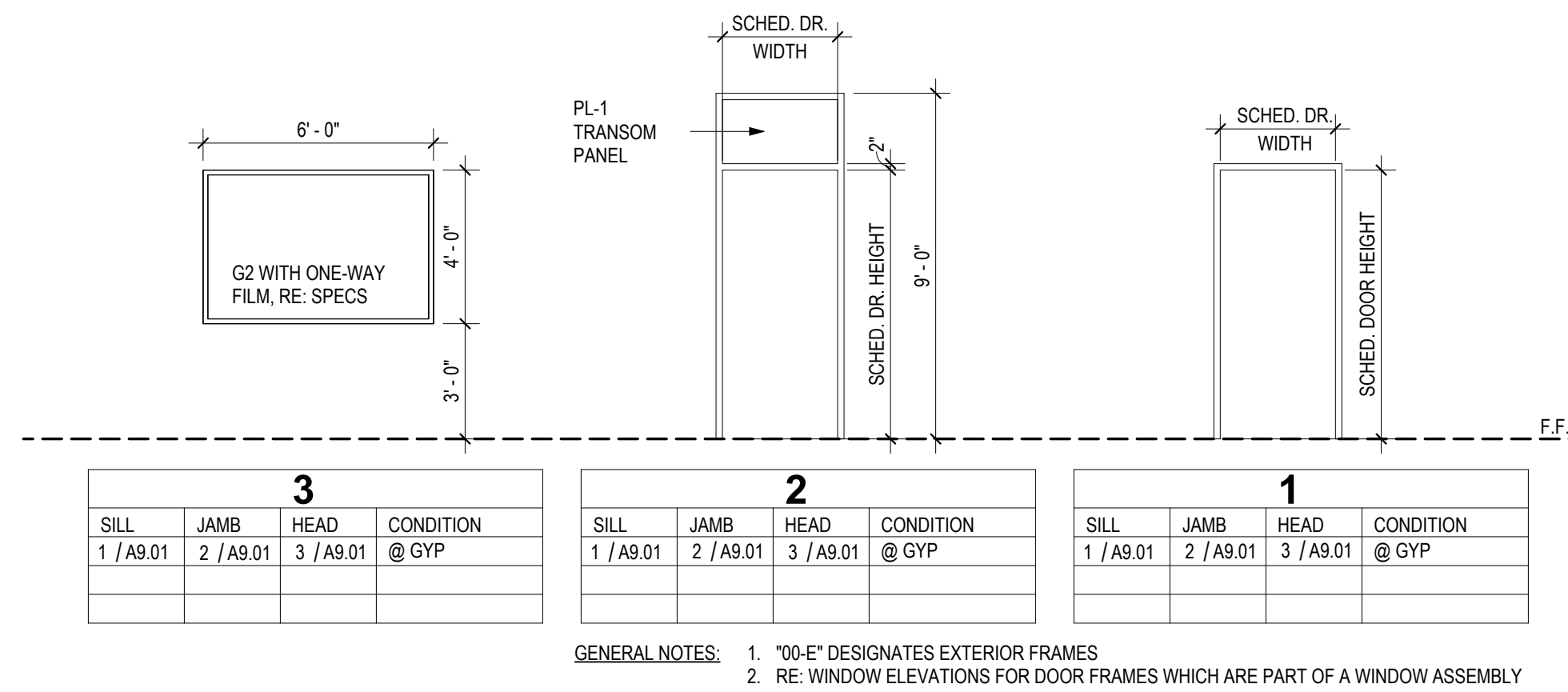


3 INT ALUM HEAD @ GYP  
3" = 1'-0"

2 INT ALUM JAMB @ GYP  
3" = 1'-0"

1 INT ALUM SILL @ GYP  
3" = 1'-0"

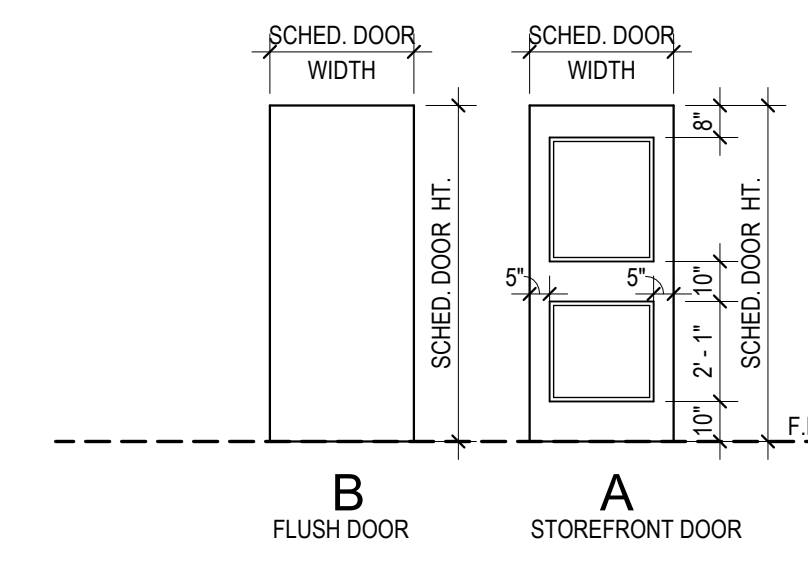
ELEVATIONS - INTERIOR FRAMES  
1/4" = 1'-0"



ELEVATIONS - INTERIOR FRAMES  
1/4" = 1'-0"

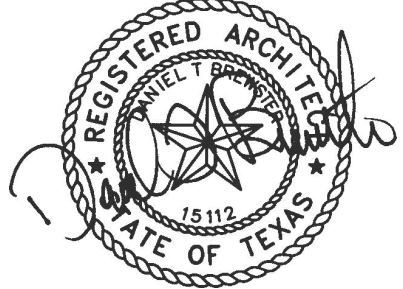
- LEGEND - GLAZING
- 1/4" = 1'-0"
- G1 - NOT USED  
G2 - TEMPERED GLASS  
G3 - NOT USED  
G4 - INSULATED GLASS  
G5 - NOT USED  
G6 - NOT USED  
G7 - NOT USED  
G8 - NOT USED

LEGEND - GLAZING  
1/4" = 1'-0"



ELEVATIONS - DOORS  
1/4" = 1'-0"

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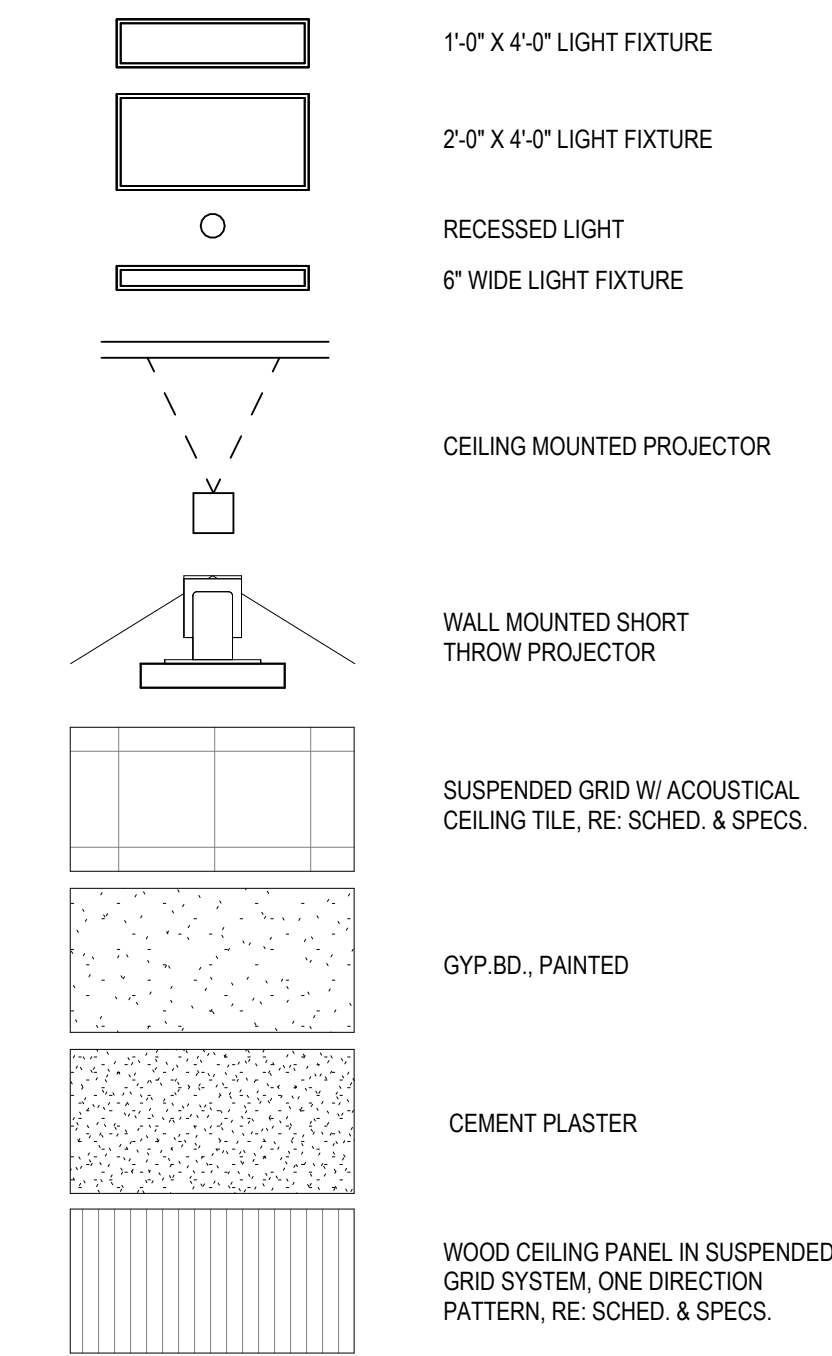
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DATE: 2025-03-31  
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A9.01

INTERIOR  
FRAME  
ELEVATIONS

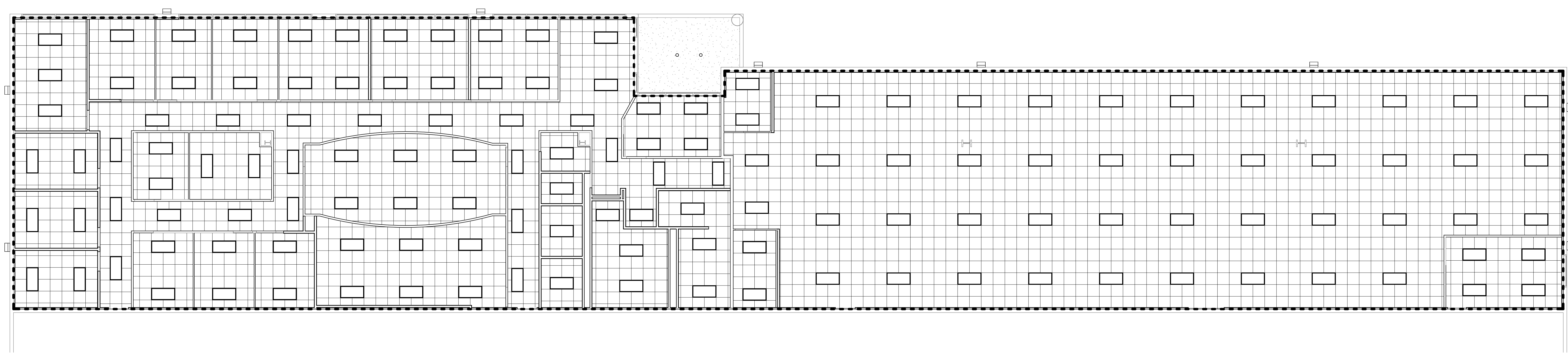




LEGEND - RCP

1/4" = 1'-0"

NOTE: ALTERNATE 002: PROVIDE ADDITIONAL INSULATION WITHIN DASHED LINE SHOW BELOW, INSTALL BELOW ROOF DECK. RE: SPECS



1 1ST FLOOR - RCP

1/8" = 1'-0"

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PROJECT SCOPE

WAREHOUSE  
(NO SCOPE)

**TISD INNOVATION CENTER  
BLDG. 4 RENOVATION**

Tomball ISD

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**ARCADIS**

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DATE: 2025-03-31  
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**A10.01**

AREA 'A1' 1ST  
FLOOR RCP





CONSULTANTS

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PROJECT SCOPE

WAREHOUSE  
(NO SCOPE)

TISD INNOVATION CENTER  
BLDG. 4 RENOVATION

Tomball ISD  
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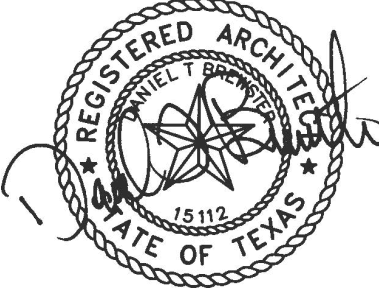
FLOORS		WALLS		DOORS + CASEWORK + COUNTERS		MISCELLANEOUS	
CPT-1	CARPET (FIELD) MFR: TARKETT SERIES: AFTERMATH II 03026 COLOR: CAMOUFLAGE 23506 TYPE: ROLL BACKING: POWERBOND RS	PT-1	PAIN (FIELD) MFR: SHERWIN WILLIAMS COLOR: KESTRAL WHITE 7516	PL-1	PLASTIC LAMINATE (DOORS + CASEWORK) MFR: FORMICA COLOR: MILLENIUM OAK 5887	TP-1	TOILET PARTITIONS MFR: SCRANTON PRODUCTS SERIES: HINY HIDERS COLOR: GREY FINISH: ORANGE PEEL
LVT-1	LUXURY VINYL TILE MFR: TARKETT SERIES: EVENT STONE - URBAN STONE COLOR: MALIBU 11200 SIZE: 12" X 24"	PT-2	PAIN MFR: SHERWIN WILLIAMS COLOR: MINDFUL GRAY 7016	PL-2	PLASTIC LAMINATE (COUNTERTOP) MFR: FORMICA COLOR: CARRERA BIANCO 6696-58	GRT-1	GROUT MFR: CUSTOM BY QUIKRETE COLOR: 335 WINTER GRAY LOCATION: TF-1 AND TB-1
SC-1	SEALED CONCRETE (RG SPECS)	PT-3	PAIN MFR: SHERWIN WILLIAMS COLOR: KALE GREEN 6460	PL-3	PLASTIC LAMINATE (COUNTERTOP) MFR: FORMICA COLOR: PORTICO MARBLE LOCATION: MULTICRAFT WORKTOPS	GRT-2	GROUT MFR: CUSTOM BY QUIKRETE COLOR: 9 NATURAL GRAY LOCATION: TW-2 AND TW-3
TF-1	TILE FLOORS MFR: DALTILE SERIES: FIXTURE COLOR: GLACIER FX21 - MATTE FINISH SIZE: 12" X 24" TYPE: PORCELAIN	TW-1	TILE WALLS (FIELD) MFR: DALTILE SERIES: FIXTURE COLOR: ICE FX20 - POLISHED FINISH SIZE: 12" X 24" TYPE: PORCELAIN				
WM-1	WALK-OFF MAT MFR: TARKETT SERIES: ASSERTIVE STRIA COLOR: STEELWORK TYPE: ROLL BACKING: POWERBOND RS	TW-2	TILE WALLS MFR: DALTILE SERIES: MESMERIST COLOR: ALLURE MM33 SIZE: 3" X 3" ARABESQUE MOSAIC TYPE: CERAMIC				
		TW-3	TILE WALLS MFR: DALTILE SERIES: MESMERIST COLOR: CHARM MM32 SIZE: 3" X 3" ARABESQUE MOSAIC TYPE: CERAMIC				
		TB-1	TILE BASE MFR: DALTILE SERIES: FIXTURE COLOR: GLACIER FX20 - MATTE FINISH SIZE: 12" X 6" COVE BASE TYPE: PORCELAIN				
		RB-1	RUBBER BASE MFR: ROPPE SERIES: PINNACLE COLOR: DARK GRAY 150 SIZES: 4"				

NOTE: ALL OPTIONS, SIZES, AND PATTERNS ARE SUBJECT TO CHANGE UPON OWNER APPROVAL

1 INTERIOR FINISH LEGEND  
3/8" = 1'-0"



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A11.00

INTERIOR FINISH  
LEGEND





1. RE: ROOM FINISH SCHEDULES FOR MATERIAL LOCATIONS.
2. RE: A11 SERIES DWGS. FOR TILE PATTERN ORIGIN POINTS.
3. ALL CHANGES IN FLOOR MATERIAL BETWEEN ROOMS SHALL OCCUR @ CENTERLINE OF DOORWAY UNLESS OTHERWISE NOTED.
4. ANY FINISH CONFLICT BETWEEN FINISH SCHEDULES & FINISH FLOOR PLANS TO BE BROUGHT TO THE ARCH'S ATTENTION FOR RESOLUTION.

1/4" = 1'-0"

1. ALIGN WALK-OFF MAT TO DOORWAY OPENING.


$$1/8" = 1'-0"$$

## PROJECT SCOPE

WAREHOUSE  
(NO SCOPE)

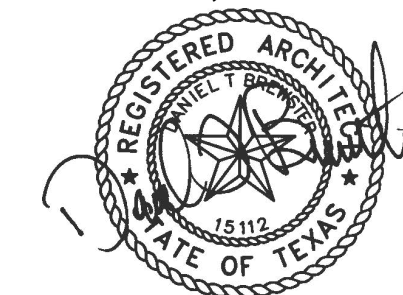
## Tomball ISD

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HOUSTON, TX 77056

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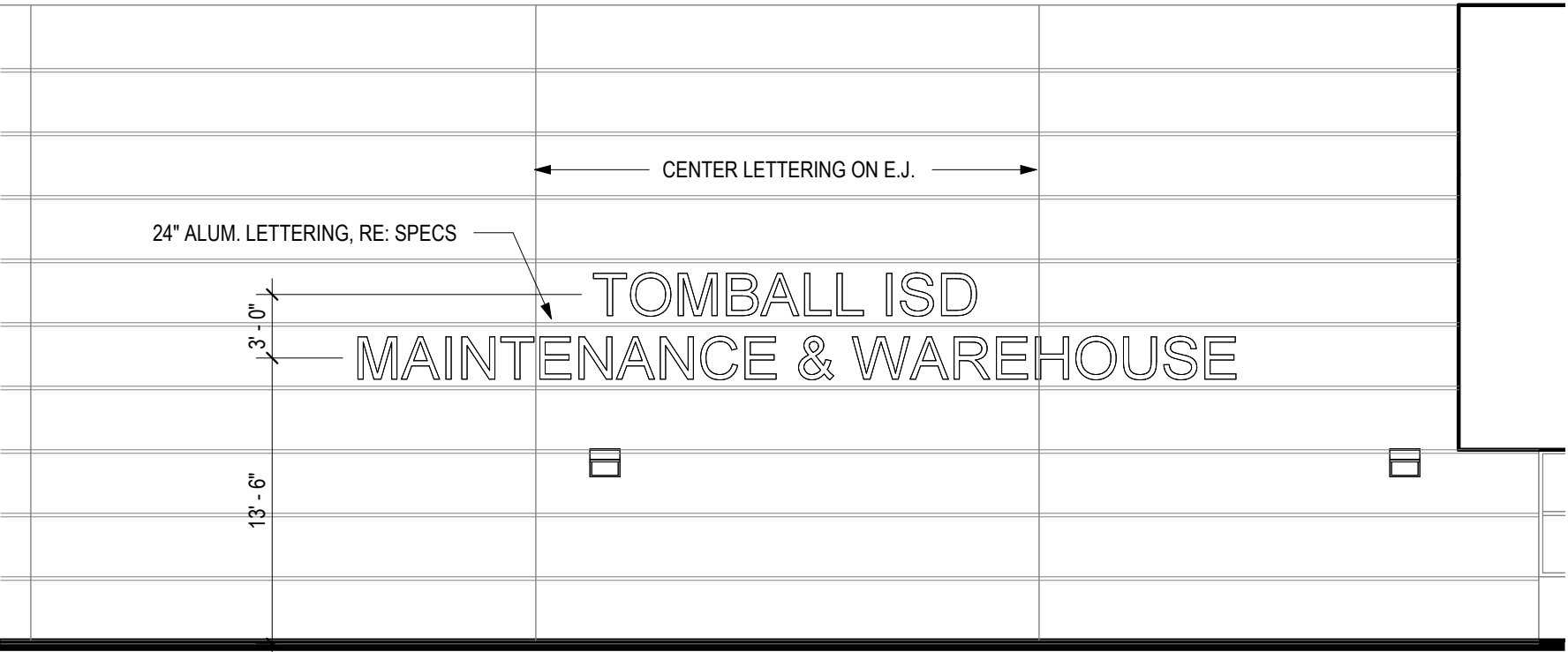
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AREA 'A1' 1ST  
FLOOR FINISH  
PLAN

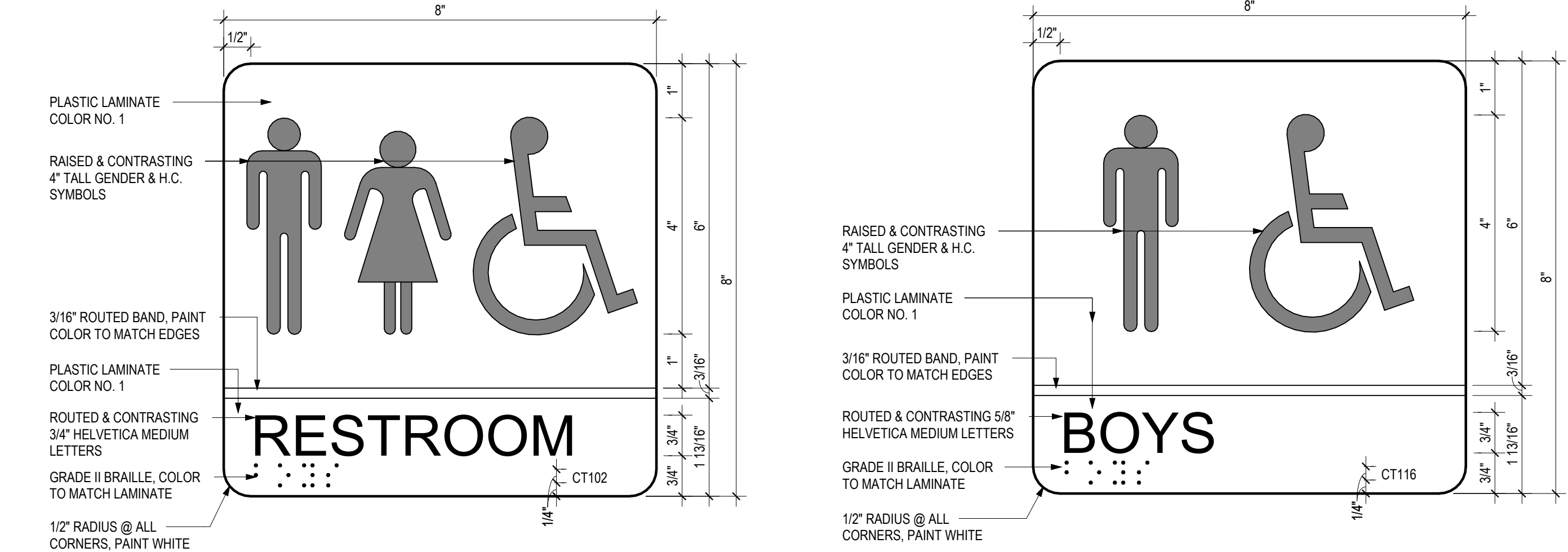




AREA 'A1' - GRAPHIC SCHEDULE									
ROOM #	ROOM NAME	GRAPHIC #	GRAPHIC NAME	PLAQUE TYPE	SEX ID	ADA SYMBOL	QTY	BACKR PLT(S)	COMMENTS
1001	RECP	1001	-	A			1		
1002	OFFICE	1002	-	A			1		
1003	OFFICE	1003	-	A			1		
1004	OFFICE	1004	-	A			1		
1005	OFFICE	1005	-	A			1		
1006	OFFICE	1006	-	A			1		
1007	OFFICE	1007	-	A			1		
1008	PRINTER	1008	-	A			2		
1009	OFFICE	1009	-	A			1		
1010	OFFICE	1010	-	A			1		
1011	OFFICE	1011	-	A			1		
1012	OFFICE	1012	-	A			1		
1013	OFFICE	1013	-	A			1		
1014	OFFICE	1014	-	A			1		
1015	OFFICE	1015	-	A			1		
1016	LARGE CONFERENCE	1016	-	A			1		
1017	LOUNGE	1017	LOUNGE	B			1		
1018	STORAGE	1018	-	A			1		
1019	CUST.	1019	CUSTODIAL	B			1		
1020	RESTROOM	1020	RESTROOM	E			1		
1021	RESTROOM	1021	RESTROOM	E			1		
1022	SMALL CONF.	1022	-	A			1		
1023	MEN'S RR	1023	MEN	D			1		
1025	FACILITIES	1025	-	B			3		
1025.1	HVAC	1025.1	-	A			1		
1025.2	CARPET/PAINT	1025.2	-	A			1		
1025.3	GROUNDOS	1025.3	-	A			1		
1025.4	ELEC.	1025.4	-	A			1		
1025.5	PLUMB.	1025.5	-	A			1		
1025.6	COMM.	1025.6	-	A			1		
1026	MDF	1026	MDF	B			1		
1027	ELEC	1027	ELECTRICAL	B			1		
1028	LOCKSHOP	1028	-	A			1		
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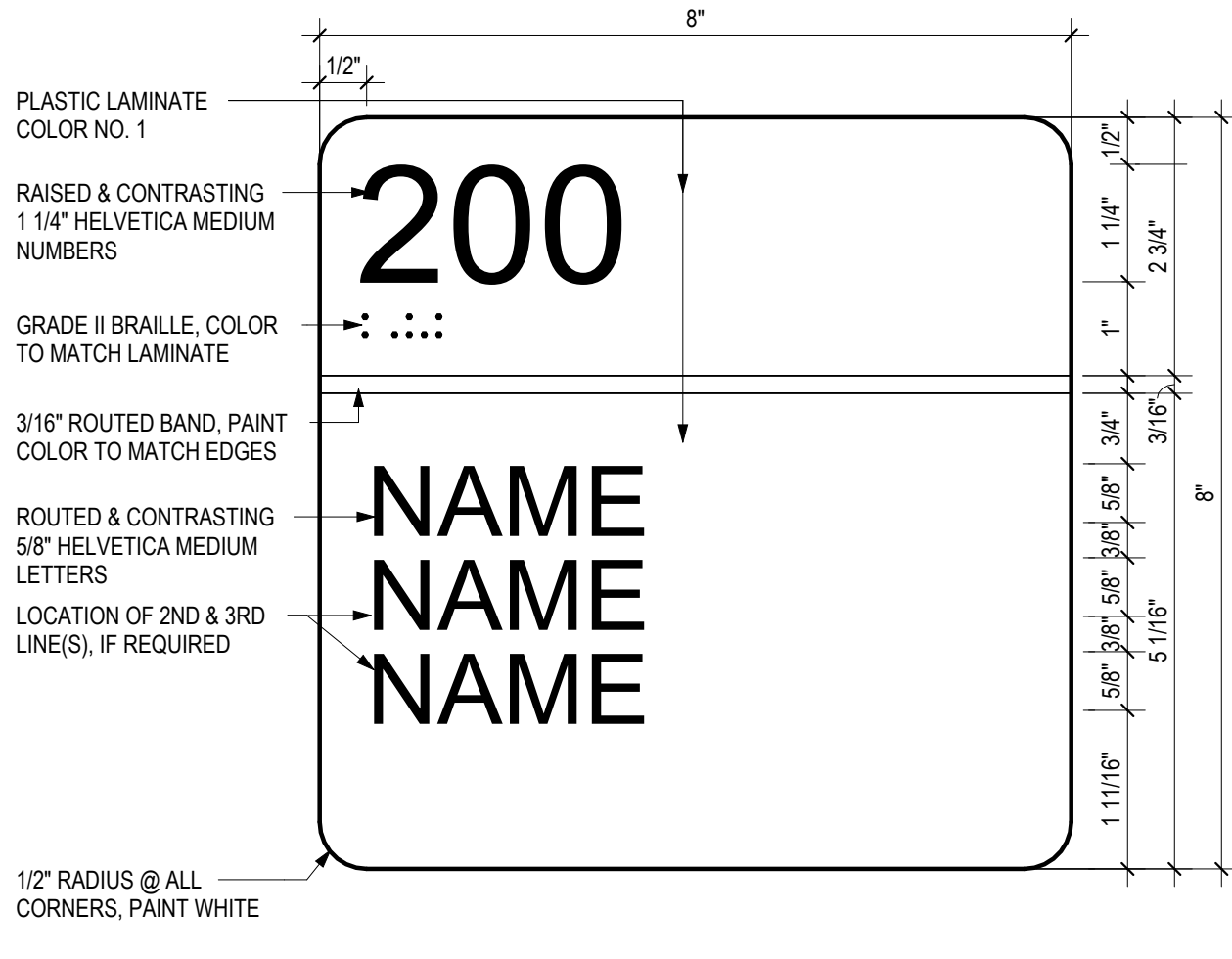


7 ALUM LETTERING FRONT ELEVATION  
1/8" = 1'-0"

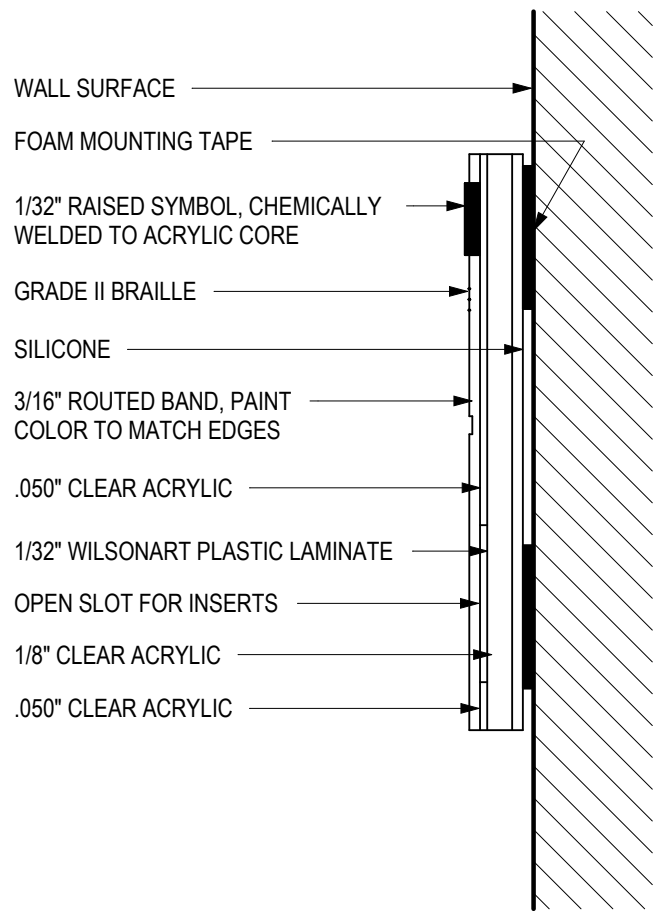


6 SIGN - TYPE 'E'  
6" = 1'-0"

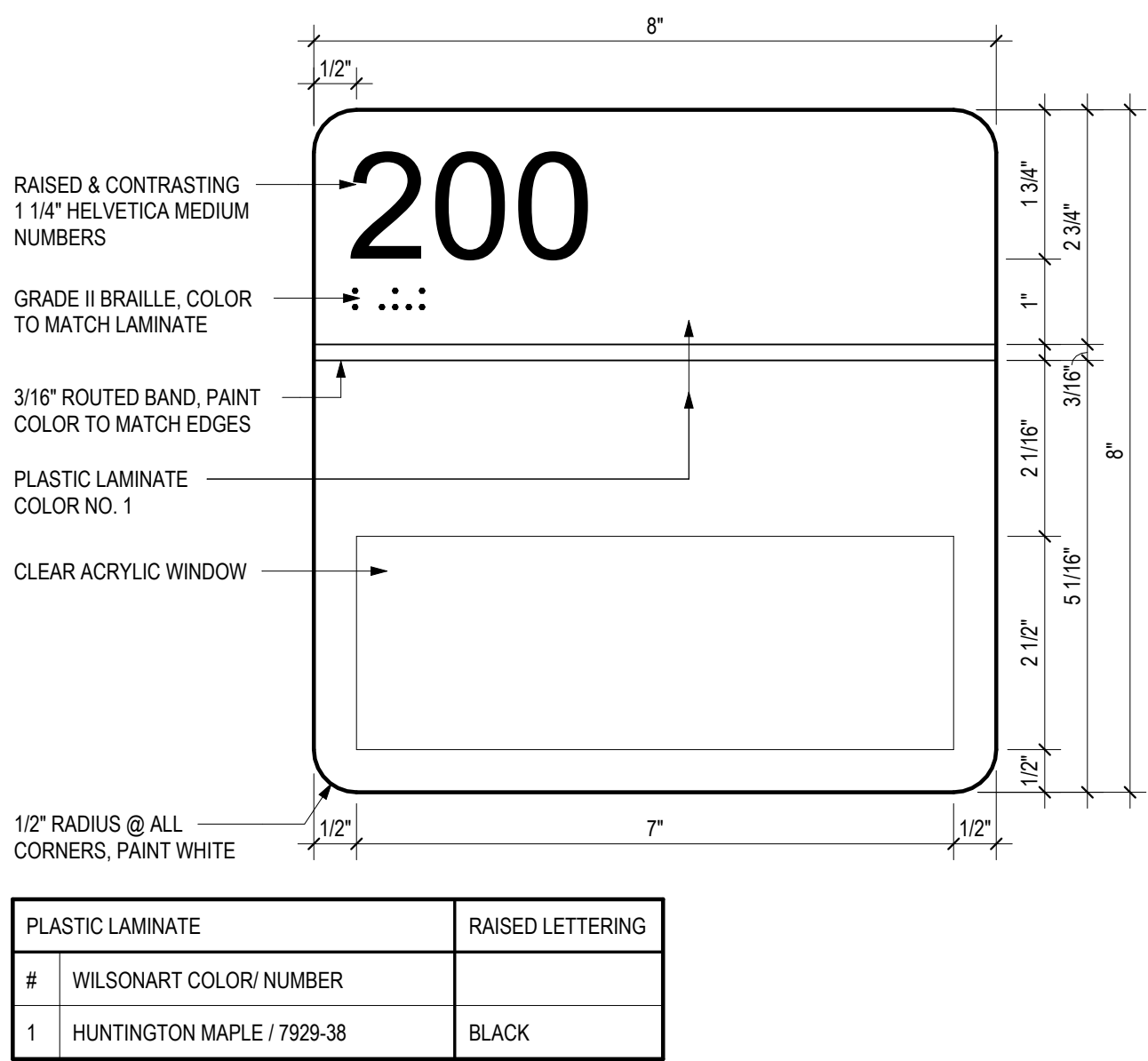
5 SIGN - TYPE 'D'  
6" = 1'-0"



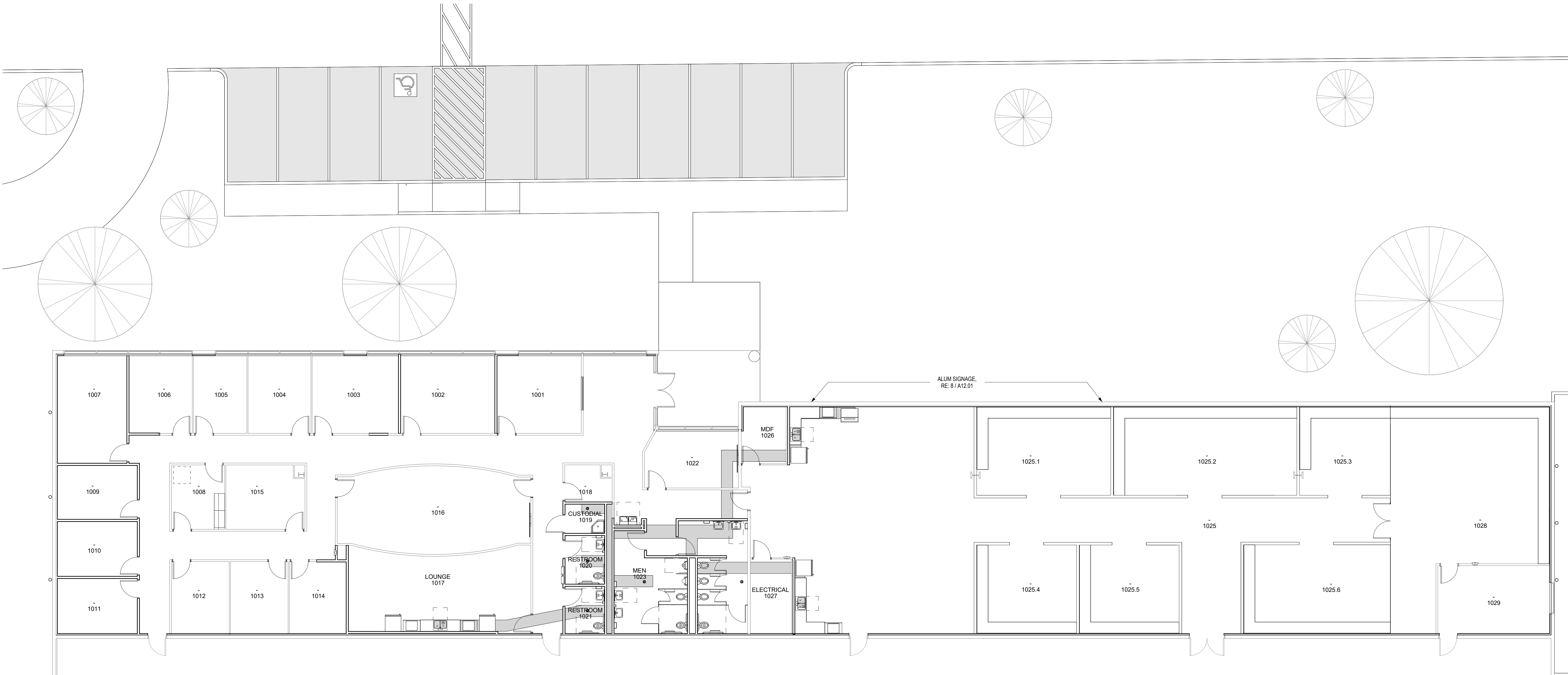
4 SIGN - TYPE 'B'  
6" = 1'-0"



3 SIGN - TYPE 'A' SECTION  
6" = 1'-0"



2 SIGN - TYPE 'A'  
6" = 1'-0"



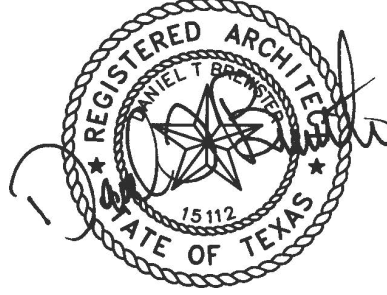
1 1ST FLOOR GRAPHICS PLAN  
1/8" = 1'-0"

CONSULTANTS  
MEP  
DBR, INC.  
9990 Richmond Avenue  
South Building, Suite 300  
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STRUCTURAL  
CJG Engineers  
6051 North Course Dr., Suite 375  
Houston, TX 77072  
Tel: 713.780.3345  
Fax: 713.780.3712

PROJECT SCOPE  
WAREHOUSE  
(NO SCOPE)

TISD INNOVATION CENTER  
BLDG. 4 RENOVATION  
Tomball ISD  
11211 Farm to Market 2920, Tomball, TX 77375

ARCADIS  
ARCADIS INC.  
1330 POST OAK BOULEVARD, SUITE 2250  
HOUSTON, TX 77056  
tel 281.286.6605, fax 713.977.4620

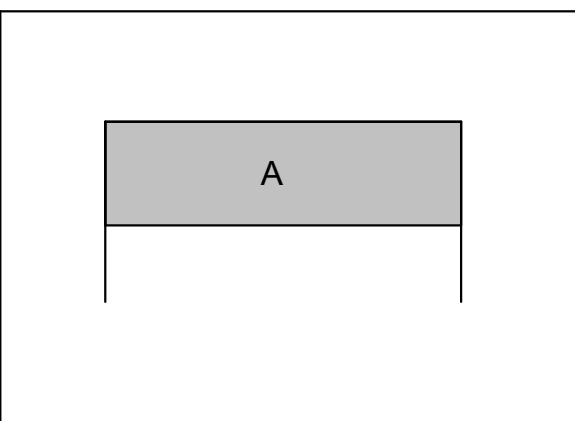


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DATE: 2025-03-31  
DRAWN: Author  
CHECKED: Checker  
DATE: 2025-03-31  
ISSUE: PROPOSAL AND PERMIT

A12.01  
SIGNAGE  
DETAILS

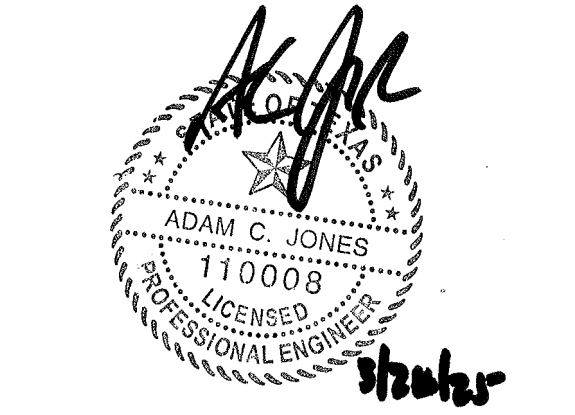


CONSULTANTS  
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DBR, INC.  
9990 Richmond Avenue  
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6501 North Course Dr., Suite 375  
Houston, TX 77042  
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TISD INNOVATION CENTER  
BLDG.4 RENOVATION  
Tomball ISD  
11211 Farm To Market 2920, Tomball, TX 77355

ARCADIS  
ARCADIS INC.  
1330 Post Oak Boulevard, Suite 2250  
Houston, TX 77066  
tel 281.286.6605, fax 713.977.4620



















PROJECT #: 202415  
DATE: 2025-03-31  
DRAWN: DBR  
CHECKED: DBR  
  
DATE: 2025-03-31  
ISSUE: PROPOSAL AND PERMIT































M0.01  
MECHANICAL  
SYMBOL  
LEGEND
















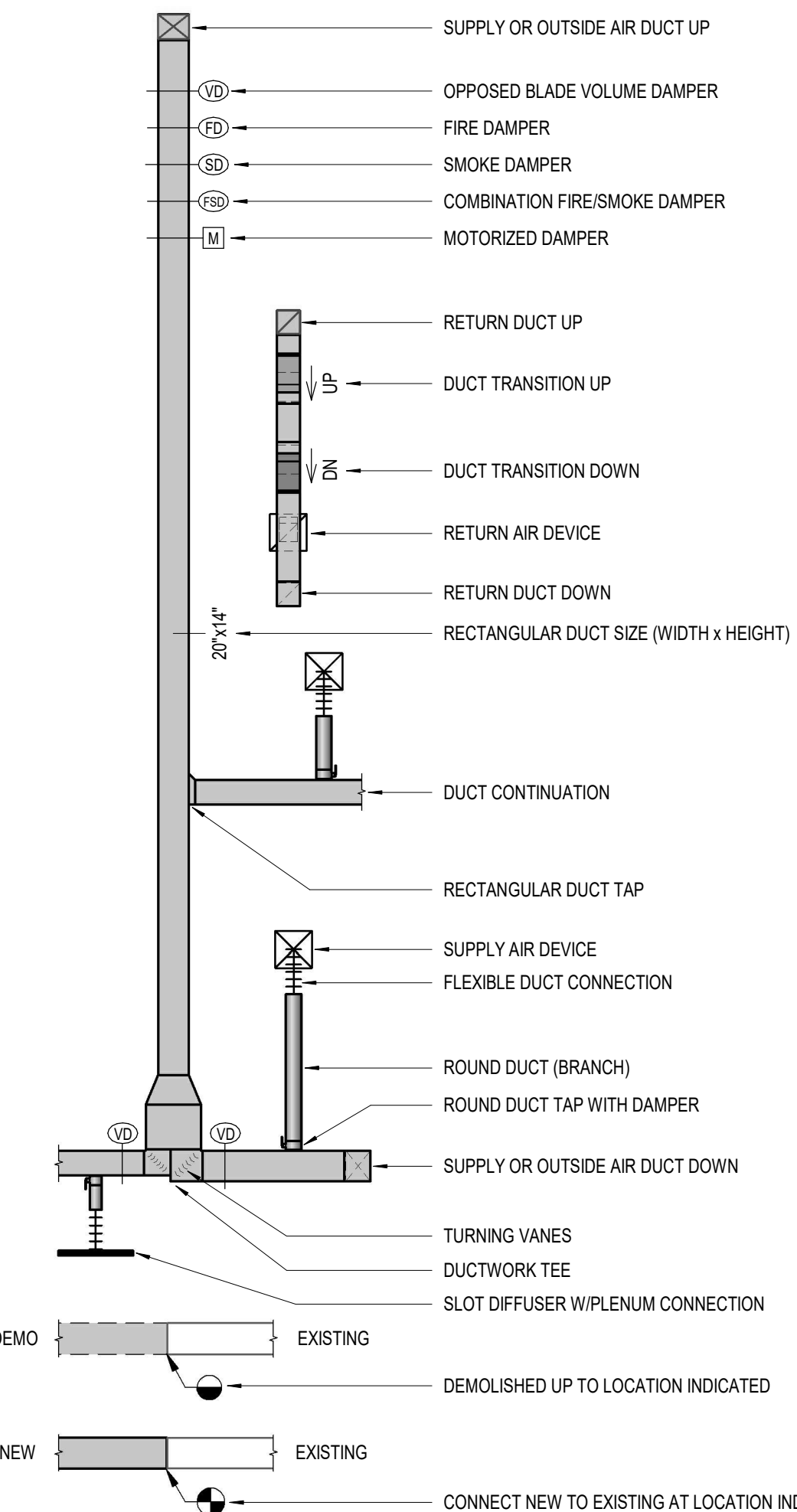
ABBREVIATIONS		AIR DEVICE TYPES		DESIGN CRITERIA	
<b>A</b>		<b>Q</b>		<b>LOCATION:</b> 11211 Farm To Market 2920, Tomball, TX 77355	
ABV	AIR (COMPRESSED)	QTY	QUANTITY	<b>ELEVATION:</b> 180 FEET	
AC	AIR CONDITIONING	<b>R</b>		<b>DESIGN CONDITIONS:</b>	
ACCH	ALTERNATING CURRENT, AIR COMPRESSOR	RA	RETURN AIR	HEATING DB: 29.8 °F (ASHRAE 99.6%)	
ACCU	AIR COOLED CHILLER	RAD	REFRIGERATED AIR DRYER	COOLING DB / WB: 98.1 °F / 75.9 °F (ASHRAE 0.4%)	
AD	AIR COOLED CONDENSING UNIT	RAG	RETURN AIR FAN	DEHUMIDIFICATION DP / DB: 78.7 °F / 82.5 °F (ASHRAE 0.4%)	
ADJ	ADJUSTABLE	RAT	RETURN AIR TEMPERATURE	<b>SPACE INDOOR DESIGN TEMPERATURE:</b>	
AF	AIR FILTER	RCP	REFLECTED CEILING PLUN	HEATING DB: 70 °F	
AFC	ABOVE FINISHED CEILING	RD	ROOF DRAIN	COOLING DB: 75 °F	
AFG	ABOVE FINISHED FLOOR	RE	REFERENCE, REFER	RELATIVE HUMIDITY: 55%	
AHRI	ABOVE FINISHED GRADE	RED	REDUCER		
AHU	AIR-CONDITIONING, HEATING, AND REFRIGERATION INSTITUTE	REFR	REFRIGERATOR		
AL	AIR HANDLING UNIT	REG	REGISTER		
ALB	ALUMINUM	REINQ	REINFORCED		
AP	ACCESS PANEL	REQD	REQUIRED		
APD	AIR PRESSURE DROP	REV	REVISION, REVISE		
ARCH	ARCHITECT, ARCHITECTURAL	RH	RELATIVE HUMIDITY		
AS	AIR SEPARATOR	RHG	REFRIGERANT HOT GAS		
ASHR	AIR SOURCE HEAT PUMP	RL	REFRIGERANT LIQUID		
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS	RLA	ROOM LOAD AMPS		
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS	RM	REVOLUTIONS PER MINUTE		
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS	RS	REFRIGERANT SUCTION		
AVG	AVERAGE	RTU	ROOFTOP UNIT		
AWIS	AMERICAN WELDING SOCIETY	RV	RELIEF VALVE		
AUX	AUXILIARY	<b>S</b>			
<b>B</b>		<b>T</b>			
B	BOILER	SA	SUPPLY AIR		
BC	BELOW COUNTER	SAP	SUPPLY AIR FAN		
BCB	BACK OF CURB	SAG	SUPPLY AIR GRILLE		
BFF	BELOW FINISHED FLOOR	SAR	SUPPLY AIR REGISTER		
BFV	BUTTERFLY VALVE	SC	STEAM CONDENSATE		
BULD	BUILDING	SCHED	SCHEDULED		
BM	BENCHMARK	SEC	SECONDARY		
BOF	BOTTOM OF FOOTING	SECT	SECTION		
BOS	BOTTOM OF STRUCTURE	SENS	SENSIBLE		
BP	BACKFLOW PREVENTER	SF	SQUARE FEET		
BTU	BRITISH THERMAL UNIT	SFCS	SPRINKLER FLOOR CONTROL STATION		
BV	BALL VALVE	SH	SHOWER		
<b>C</b>		SHT	SHEET		
C	CELSIUS	SH	SHEETMETAL		
CAB	CABINET	SM	SM		
CD	CONDENSATE DRAIN LINE	SP	STATIC PRESSURE, SUMP PUMP		
CFM	CUBIC FEET PER MINUTE	SPEC	SPECIFICATION		
CFS	CUBIC FEET PER SECOND	SPR	SPRINKLER		
CH	CHILLER	SS	SQUARE		
CHR	CHILLED WATER RETURN	SS	STAINLESS STEEL		
CHW	CHILLED WATER SUPPLY	SSSC	SOLID STATE SPEED CONTROL		
CHWH	CHILLED WATER HEAT PUMP	STD	STANDARD		
CHWP	CHILLED WATER PUMP	STL	STEEL		
CI	CAST IRON	STM	STEAM		
CIRC	CIRCULATING	STR	STRAINER		
CL	CENTERLINE	SURF	SURFACE		
CLG	CEILING	SUSP	SUSPEND		
CLR	CLEAR	SV	SANITARY VENT		
CMU	CONCRETE MASONRY UNIT	SW	SOFT WATER		
COL	COLUMN	SW	SINGLE ZONE		
COMB	COMBINATION	<b>U</b>			
CONC	CONCRETE, CONCENTRIC	UCD	UNDER CUT DOOR		
COND	CONDENSER, CONDENSATE	UG	UNDERGROUND		
CONN	CONNECTION	UH	UNIT HEATER		
CONT	CONTINUOUS CONTINUATION	UL	UNDERWRITERS LABORATORIES, INC		
CTR	CENTER	UNO	UNLESS NOTED OTHERWISE		
CU	COPPER	UF	UNDERFLOOR		
CV	CONSTANT VOLUME	UIS	UNDERSLAB		
<b>D</b>		<b>V</b>			
D	DEPTH, DRAIN, DRYER	V	VOLT		
DB	DRY BULB	V	VOLT-AMPERE		
DC	DIRECT CURRENT	VAC	VACUUM		
DDC	DIRECT DIGITAL CONTROL	VAV	VARIABLE AIR VOLUME		
DDMB	DUAL DUCT MIXING BOX	VAV	VALVE BOX, VACUUM BREAKER		
DESIG	DESIGN	VLD	VOLUME DAMPER		
DTL	DETAIL	VD	VERTICAL DRAIN THROUGH		
DIA	DIAMETER	VEL	VELOCITY		
DIFF	DIFFUSER	VERT	VERTICAL		
DM	DIMENSION	VFD	VARIABLE FREQUENCY DRIVE		
DISC	DISCONNECT	VB	VALVE IN BOX		
DWN	DOWN	VCH	VALVE ON VERTICAL		
DPR	DAMPEN	VCP	VACUUM PUMP		
DW	DSHWASHER	VFP	VARIABLE REFRIGERANT FLOW		
DWG	DRAWING	VFR	VARIABLE AIR VOLUME REHEAT		
DX	DIRECT EXPANSION	<b>W</b>			
<b>E</b>		<b>X</b>			
EA	EACH	W	WATT, WIDTH		
EAT	ENTERING AIR TEMPERATURE	WI	WITH		
EC	ELECTRICAL CONTRACTOR	WO	WITHOUT		
ECENTR	ECCENTRIC	WB	WET BULB		
EDB	ENTERING DRY BULB	WM	WATER METER		
EF	ELECTRIC DUCT HEATER	WP	WEATHERPROOF		
EFF	EFFICIENCY	WPD	WATER PRESSURE DROP		
EJ	EXHAUST FAN	WSHP	WATER SOURCE HEAT PUMP		
EL	ELEVATION	WWF	WELODED WIRE FABRIC		
ELEC	ELECTRICAL	<b>Z</b>			
EMERG	EMERGENCY	Z	ZONE		
ENCL	ENCLOSURE	<b>REF</b>			
ENGR	ENGINEER	<b>HPS</b>			
EQ	EQUAL	<b>HPR</b>			
EQUIP	EQUIPMENT	<b>LPS</b>			
ESP	EXTERNAL, STATIC PRESSURE	<b>LPR</b>			
ET	EXPANSION TANK	<b>PCR</b>			
ETD	EXISTING TO BE DEMOLISHED	<b>REFR</b>			
ETR	EXISTING TO REMAIN	<b>REFR</b>			
EUH	ELECTRIC UNIT HEATER	<b>REFR</b>			
EVAP	EVAPORATOR	<b>REFR</b>			
EWB	ENTERING WET BULB	<b>REFR</b>			
EWY	ENTERING WATER TEMPERATURE	<b>REFR</b>			
EX	EXPLOSION PROOF	<b>REFR</b>			
EXT	EXTERNAL	<b>REFR</b>			
EXTG	EXISTING	<b>REFR</b>			

AIR DEVICE TYPES	
	SQUARE SUPPLY AIR CEILING DIFFUSER
	SQUARE RETURN AIR CEILING DEVICE
	SQUARE EXHAUST AIR CEILING DEVICE
	ROUND SUPPLY AIR CEILING DEVICE
	RECTANGULAR SUPPLY OF RETURN SIDEWALL GRILLE
	SUPPLY OR RETURN AIR SLOT CEILING DEVICE

WALL MOUNTED SENSOR AND DEVICE TYPES	
	THERMOSTAT / TEMPERATURE SENSOR
	HUMIDISTAT / HUMIDITY SENSOR
	CARBON DIOXIDE SENSOR
	CARBON MONOXIDE SENSOR
	NITROGEN DIOXIDE SENSOR
	PRESSURE SENSOR
	REFRIGERANT DETECTION SENSOR
	ON/OFF SWITCH
	EMERGENCY POWER OFF BUTTON
	REFRIGERANT AUDIO/VISUAL DETECTION ALARM

CONTROLS SCHEMATIC SYMBOLS LEGEND			
	ANALOG INPUT		FLOW SWITCH
	ANALOG OUTPUT		DISCHARGE AIR TEMPERATURE SENSOR
	DIGITAL/BINARY INPUT		WALL SENSOR
	DIGITAL/BINARY OUTPUT		THERMOSTAT
	ON-OFF MOTORIZED DAMPER		CARBON DIOXIDE SENSOR
	MODULATING TYPE MOTORIZED DAMPER		SET POINT
	AIR FLOW MEASURING STATION		SUPPLY AIR
	CONTROL VALVE MODULATING TYPE		RETURN AIR
	VARIABLE FREQUENCY DRIVE		OUTSIDE AIR
	CURRENT SENSING RELAY		HEATING COIL
	FREEZE STAT		COOLING COIL
	HIGH STATIC LIMIT		DIRECT EXPANSION COOLING COIL
	STATIC PRESSURE TRANSMITTER		PRESSURE INDEPENDENT CHARACTERIZED CONTROL VALVE
	DIFFERENTIAL PRESSURE TRANSDUCER		AIRFLOW CROSS
	FLOW METER		DIFFERENTIAL PRESSURE SWITCH

PIPING TYPES			
	CONDENSATE DRAIN LINE		REFRIGERANT PIPING SIZED BY MFR.
	CHILLED WATER SUPPLY		HIGH PRESSURE STEAM SUPPLY
	CHILLED WATER RETURN		HIGH PRESSURE CONDENSATE RETURN
	HOT WATER SUPPLY		LOW PRESSURE STEAM SUPPLY
	HOT WATER RETURN		LOW PRESSURE CONDENSATE RETURN
	CONDENSER WATER SUPPLY		PUMPED CONDENSATE RETURN
	CONDENSER WATER RETURN		

	
DEMO	EXISTING
NEW	EXISTING

DRAWING/DETAIL REFERENCE KEY	
RE:	1
1	MS.01



MECHANICAL GENERAL NOTES

- A. MECHANICAL DRAWINGS AND SPECIFICATIONS ARE DIAGRAMMATIC IN NATURE AND INTENDED TO DESCRIBE AND ILLUSTRATE SYSTEMS THAT WILL NOT INTERFERE WITH THE ARCHITECTURAL / STRUCTURAL CONDITIONS OF THE BUILDING AND WILL FIT INTO AVAILABLE SPACES. CONTRACTOR SHALL COORDINATE ALL WORK TO CONFORM TO THE ARCHITECTURAL, STRUCTURAL, FINISH CONDITIONS, EQUIPMENT MANUFACTURER / FIXTURE CUTSHEETS AND WITH OTHER TRADES, TO AVOID OBSTRUCTIONS AND TO ALLOW THE PROPER INSTALLATION OF EACH ITEM. EQUIPMENT SIZES, DIMENSIONS AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE MANUFACTURER'S DRAWINGS AND CUTSHEETS PRIOR TO FABRICATING OF DUCTWORK, PIPING, OR POURING OF CONCRETE HOUSEKEEPING PADS. CONTRACTOR SHALL OBTAIN ALL ARCHITECTURAL DRAWINGS AND STRUCTURAL DATA, LOCATIONS OF BEAMS, BRACES, COLUMNS, JOISTS, ETC., FROM STRUCTURAL DRAWINGS AND PROVIDE OFFSETS, RELOCATIONS, ETC., AS REQUIRED TO MEET THIS INTENT AT NO ADDITIONAL COST. PROVIDE ALL NECESSARY PIPING, DUCTWORK, FITTING, INSULATION, AND OTHER ACCESSORIES IN ORDER TO COMPLETE THE INSTALLATION.
- B. CONTRACTOR SHALL BE RESPONSIBLE TO EXAMINE ALL THE CONTRACT DOCUMENTS CAREFULLY BEFORE SUBMITTING THEIR BID. WITH PARTICULAR ATTENTION TO ERRORS, OMISSIONS, CONFLICTS WITH PROVISIONS OF LAWS AND CODES HAVING JURISDICTION, CONFLICTS BETWEEN DRAWINGS OR DRAWINGS AND SPECIFICATIONS, AND AMBIGUOUS DEFINITION OF THE EXTENT OF COVERAGE BETWEEN CONTRACTS. ANY SUCH DISCREPANCY SHALL BE BROUGHT IMMEDIATELY TO ATTENTION FOR CORRECTION. SHOULD ANY OF THESE ERRORS, OMISSIONS, CONFLICTS, OR AMBIGUITIES EXIST, THE CONTRACTOR SHALL HAVE THEM EXPLAINED AND AT THEIR EXPENSE, SUPPLY THE PROPER MATERIALS AND LABOR TO MAKE GOOD ANY DAMAGE OR DEFECTS IN THEIR WORK OR THE RESULTS OBTAINED THEREFORE, CAUSED BY SUCH DISCREPANCY. THE CONTRACTOR SHALL MAKE A CAREFUL EXAMINATION OF THE PREMISES AND THOROUGHLY FAMILIARIZE THEMSELVES WITH THE REQUIREMENTS OF THE CONTRACT. UPON COMMENCEMENT OF THE CONSTRUCTION FOR THE WORK INCLUDED IN THIS CONTRACT, THE CONTRACTOR SHALL BE DEEMED TO HAVE MADE SUCH A STUDY OR EXAMINATION AND ACCEPTED ALL CONDITIONS.
- C. WHEREVER CONFLICTS OCCUR BETWEEN DIFFERENT PARTS OF THE CONTRACT DOCUMENTS (SUCH AS DRAWINGS AND SPECIFICATIONS), THE GREATER QUANTITY, THE BETTER QUALITY, THE LARGER SIZE, OR THE VALUE WITH THE GREATEST COST IMPACT SHALL PREVAIL UNLESS THE ARCHITECT INFORMS THE CONTRACTOR OTHERWISE IN WRITING. THIS INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DATA: DIMENSIONS, GAUGE THICKNESS, TEMPERATURES, PRESSURE, BTUH, SCHEDULE / TIME DURATION, ELECTRICAL RATINGS, MATERIAL, SAFETY RATINGS, ENERGY EFFICIENCY, ETC.
- D. CONTRACTOR SHALL PROVIDE A MECHANICAL INSTALLATION THAT IS COMPLETE AND ALL ITEMS AND APPURTENANCES NECESSARY. REASONABLY INCIDENTAL OR CUSTOMARILY INCLUDED, EVEN THOUGH EACH AND EVERY ITEM IS NOT SPECIFICALLY CALLED OUT OR SHOWN, THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, MATERIALS, LABOR, SUPERVISION AND SERVICE NECESSARY SO AS TO PROVIDE A COMPLETE, FUNCTIONING MECHANICAL SYSTEM.
- E. ALL EQUIPMENT, PIPING, DUCTWORK, ETC. SHALL BE LOCATED APPROXIMATELY IN GENERAL LOCATIONS SHOWN AND SHALL CONFORM TO ALL ARCHITECTURAL AND STRUCTURAL CONDITIONS. PROVIDE ANY ADDITIONAL SUPPORTS, HANGERS, OPENINGS, ETC. AS REQUIRED FOR A COMPLETE INSTALLATION. EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS ENSURING THAT ACCESS PANELS ARE NOT BLOCKED. EXPERIENCED CRAFTSMEN SHALL MAKE THE INSTALLATION OF ALL EQUIPMENT IN A NEAT WORKMANSHIP-LIKE MANNER. EQUIPMENT SHALL BE AS SCHEDULED OR APPROVED EQUAL. EQUIPMENT SHALL BE INSTALLED IN FULL ACCORDANCE WITH ALL APPLICABLE CODES HAVING JURISDICTION. COORDINATE BETWEEN ALL TRADES PRIOR TO STARTING ANY WORK. PROVIDE ADEQUATE CLEARANCE FOR PROPER OPERATION, SERVICE/MAINTENANCE, AIR FLOW, ETC. PIPING AND DUCTWORK ARE NOT PERMITTED IN ELECTRICAL, ELEVATOR MACHINE, TELECOM, IT, AND COMMUNICATION ROOMS. ALL ELEVATIONS INDICATED IN THIS WAY (8' - 4' ) ARE THE ELEVATIONS FROM THE FINISHED FLOOR DIRECTLY BELOW TO THE BOTTOM OF THE BARE PIPE OR DUCT.
- F. EXECUTE ALL WORK FOLLOWING LOCAL, STATE AND/OR NATIONAL CODES, ORDINANCES AND REGULATIONS GOVERNING THE PARTICULAR CLASS OF WORK INVOLVED. THE GOVERNING CODES ARE MINIMUM REQUIREMENTS. THE DRAWINGS AND/OR SPECIFICATIONS SHALL PREVAIL WHEN THE DRAWINGS ARE/OR ACCOMPANYING SPECIFICATIONS EXCEED THE CODE REQUIREMENTS.
- G. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FILING AND PAYING ALL FEES AND OBTAINING NECESSARY PERMITS AND CERTIFICATES OF INSPECTION. THE CONTRACTOR SHALL DELIVER ALL CERTIFICATES OF INSPECTION TO OWNER/CONSTRUCTION MANAGER INCLUDING COPIES WITH MAINTENANCE MANUALS.
- H. CONTRACTOR SHALL PROVIDE DETAILED AND DIMENSIONED HVAC DUCTWORK AND PIPING FABRICATION SHOP DRAWINGS FOR APPROVAL BY THE ARCHITECT / ENGINEER. DURING THE INSTALLATIONS OF THE WORK, THE CONTRACTOR SHALL KEEP DETAILED RECORDS OF ANY AND ALL CHANGES MADE FROM THE WORK AS ACTUALLY INSTALLED. THESE RECORD DRAWINGS SHALL BE NOTED AS-BUILT, AND SUBMITTED TO THE ARCHITECT / ENGINEER FOR REVIEW WITH ALL O&M MANUALS.
- I. PROPERLY SUPPORT ALL EQUIPMENT, DUCTWORK AND PIPING WITHIN THE BUILDING AND PROVIDE ADEQUATE PROVISIONS FOR SLOPE AND ANCHORAGE. CONTRACTOR SHALL USE HANGERS, RODS AND INSERTS LISTED BY UNDERWRITERS' LABORATORIES FOR THE SERVICE INTENDED, SECURELY SUPPORTED BY STRUCTURAL MEMBERS WHICH IN TURN ARE SUPPORTED DIRECTLY FROM THE BUILDING STRUCTURE.
- J. CLEARANCE REQUIREMENTS BETWEEN MECHANICAL COMPONENTS AND SWITCHBOARDS, PANELBOARDS, POWER PANELS, MOTOR CONTROL CENTERS AND TRANSFORMERS SHALL CONFORM TO THE LATEST VERSION OF THE NATIONAL ELECTRICAL CODE.
- K. DUCTWORK AND PIPING SHALL BE INSTALLED CONCEALED ABOVE CEILINGS, INSIDES CHASES / WALLS, ETC. IN GENERAL LOCATIONS SHOWN, UNLESS NOTED OTHERWISE. CONFORM TO ALL ARCHITECTURAL, STRUCTURAL, AND FINISH CONDITIONS OF THE BUILDING. WHEREVER CONDITIONS ARISE WHICH WILL CAUSE NORMALLY CONCEALED MATERIALS TO BE EXPOSED, IMMEDIATELY CALL THE SITUATION TO THE ATTENTION OF THE ARCHITECT AND STOP WORK IN THOSE AREAS UNTIL THE ARCHITECT DIRECTS THE RESUMPTION OF THE WORK AND THE PROCEDURES TO BE FOLLOWED. ALL DUCTWORK, PIPING AND ASSOCIATED ACCESSORIES IN OCCUPIED AREAS THAT ARE EXPOSED TO VIEW SHALL BE PAINTED. REFER TO ARCHITECT FOR COLOR. DUCT SIZES SHOWN ON PLANS ARE CLEAR INSIDE DIMENSIONS. IN ANY CASE WHERE A PIPE OR DUCT SHOWN ON THE PLAN SHEET DIFFERS FROM THAT SHOWN IN A SCHEMATIC OR DETAIL, PROVIDE THE LARGER OF THE TWO SIZES SHOWN.
- L. SLOPE AND ARRANGE HVAC PIPING TO ESTABLISH HIGH POINTS FOR AIR ELIMINATION AND LOW POINTS TO PERMIT PROPER DRAINAGE. PROVIDE AIR VENTS AT HIGH POINTS AND DRAIN VALVES AT LOW POINTS. ALL PIPING SHOWN ON FLOOR PLANS SHALL BE ROUTED ABOVE THE CEILING ON THE FLOOR WHERE IT IS SHOWN, UNLESS OTHERWISE NOTED. ARRANGE PIPING CONNECTIONS TO ALL EQUIPMENT TO ALLOW EASY REMOVAL OF EQUIPMENT, COILS, FANS, MOTORS, FILTERS, ACCESS PANELS, ETC. PROVIDE UNIONS, FLANGES, AND VALVES AT CONNECTIONS. ALL EXTERIOR PIPING SHALL BE INSULATED AND JACKETED. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. PIPING RUN-OUTS TO TERMINAL UNITS SHALL BE 3/4" UNLESS OTHERWISE NOTED. MINIMUM PIPE SIZE FOR THE PROJECT SHALL BE 3/4".
- M. WALL MOUNTED THERMOSTATS / HUMIDISTATS / SENSORS SHALL BE MOUNTED AT 42" A.F.F. APPROX. WHERE INDICATED ON PLANS. UNLESS OTHERWISE NOTED, SENSOR LOCATION SHALL BE MAX 12" FROM END OF WALL AND/OR DOOR JAMB. COORDINATE EXACT LOCATIONS WITH ARCHITECT, ELECTRICAL CONTRACTOR, AND BETWEEN OTHER TRADES PRIOR TO MOUNTING. DO NOT MOUNT ABOVE DIMMERS, THERMOSTATS ON EXTERIOR WALLS OR WALLS SEPARATING CONDITIONED SPACE FROM UNCONDITIONED SPACE SHALL BE INSULATED. THERMOSTATS / HUMIDISTATS / SENSORS SHALL NOT BE INSTALLED ON DECORATIVE WALLS.
- N. FIRE, SMOKE, AND FIRE/SMOKE DAMPERS SHALL BE INSTALLED AS INDICATED AND WHERE OTHERWISE REQUIRED BY LOCAL CODES AND ORDINANCES. REFER TO ARCHITECTURAL DRAWINGS / BUILDING CODE SUMMARY / LIFE SAFETY PLANS FOR LOCATIONS OF ALL FIRE RESISTANT / RATED WALLS, CEILINGS, CHASES, SHAFTS, SMOKE COMPARTMENTS, AND LOCATIONS OF EGRESS CORRIDORS. DAMPER SIZES INDICATED ARE CLEAR INSIDE AIRSTREAM DIMENSIONS. PROVIDE MEANS TO ADEQUATELY SERVICE THE DAMPER'S FUSIBLE LINKS. PROVIDE 12" X 12" MINIMUM METAL ACCESS DOORS IN ALL GYPSBOARD AND PLASTER CEILINGS. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND UL LISTING FOR SERVICE INTENDED. PROVIDE METAL SLEEVES AS REQUIRED. PROVIDE ACCESS DOORS IN DUCTWORK AT ALL FIRE, SMOKE, AND FIRE/SMOKE DAMPERS. ALL SMOKE AND FIRE/SMOKE DAMPERS REQUIRE INTEGRAL SMOKE DETECTORS AND SHALL BE INSTALLED BY THE MECHANICAL CONTRACTOR. IDENTIFY ACCESS DOORS WITH SPECIFICATIONS AND CODE.
- O. ALL DUCTWORK AND ASSOCIATED ACCESSORIES SHALL BE CONSTRUCTED TO MEET THE LATEST SMACNA STANDARDS FOR HVAC DUCT CONSTRUCTION. IN NO CASE SHALL THE DUCTWORK BE LESS THAN 26 GAUGE FOR LOW PRESSURE DUCTWORK AND 24 GAUGE FOR MEDIUM PRESSURE DUCTWORK. ALL DUCTWORK SHALL BE CONSTRUCTED TO SEAL CLASS 'A' AS REFERENCED IN SMACNA STANDARDS. ALL NON-WELDED JOINTS AND SEAMS SHALL BE SEALED. THIS INCLUDES BUT IS NOT LIMITED TO TRANSVERSE JOINTS, LONGITUDINAL SEAMS, DUCT WALL PENETRATIONS, SPINNING TAPS, AND OTHER BRANCH CONNECTIONS. ACCESS DOORS, ACCESS PANELS, AND DUCT CONNECTIONS TO EQUIPMENT, OPENINGS FOR ROTATING SHAFTS SHALL ALSO BE SEALED WITH BUSHINGS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- P. ALL OUTSIDE AIR, SUPPLY AIR, AND RETURN AIR DUCTWORK AND PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R-8 INSULATION WHERE LOCATED IN UNCONDITIONED SPACES AND SHALL BE INSULATED WITH A MINIMUM OF R-8 INSULATION WHERE LOCATED OUTSIDE THE BUILDING. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- Q. CEILING-MOUNTED AIR DEVICES SHALL BE LOCATED APPROXIMATELY AS SHOWN, COORDINATE FRAME MOUNTING TYPES FOR AIR DEVICES WITH CEILING TYPES INDICATED ON ARCHITECTURAL REFLECTED CEILING PLAN. ALL CEILING DIFFUSERS TO BE 4-WAY TYPE, UNLESS NOTED OTHERWISE. BY AIRFLOW ARROWS ON FLOOR PLAN. INSULATE THE BACKSIDE OF ALL CEILING AIR DEVICES. REFER TO PLANS AND AIR DEVICE SCHEDULE FOR SIZE OF DUCT RUNOUT AND AIR DEVICE CONNECTION SIZE. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR LOCATIONS, OF ALL CEILING FEATURES, LIGHTS, AIR DEVICES, FINISHES, CEILING HEIGHTS AND ELECTRICAL DRAWINGS FOR SPEAKERS, DETECTORS, POWER OUTLETS, ETC. AND FIRE PROTECTION SHOP DRAWINGS FOR FIRE SPRINKLER HEADS. COORDINATE FINAL LOCATIONS WITH ARCHITECT AND BETWEEN TRADES PRIOR TO MOUNTING. ALL CEILING MOUNTED AND WALL MOUNTED AIR DEVICE FINISHES SHALL MATCH ADJACENT ARCHITECTURAL SURFACE UNLESS OTHERWISE INDICATED. CONTRACTOR SHALL COORDINATE COLOR WITH ARCHITECT.
- R. BRANCH DUCT RUN-OUTS TO AIR DEVICES SHALL BE SAME SIZE AS NECK, UNLESS NOTED OTHERWISE. PROVIDE A SPIN-IN TAP WITH MANUAL VOLUME DAMPER AT MAIN DUCT TAP AND EXTEND AS SHOWN. EXTEND FLEX DUCTWORK A MAXIMUM OF 5'-0" FROM AIR DEVICES. INSTALL AS STRAIGHT AS POSSIBLE WITH LONG RADIUS BENDS WITH CLAMPS TO BE USED AT BOTH ENDS. ALL DAMPERS LOCATED ABOVE INACCESSIBLE CEILINGS SHALL BE PROVIDED WITH REMOTE DAMPER OPERATORS.
- S. TURNING VANES SHALL BE INSTALLED IN ALL MITERED ELBOWS AND AIR EXTRACTORS. PROVIDE ADEQUATE ACCESS AND MEANS TO ADJUST / BALANCE ALL AIR EXTRACTORS. TURNING VANES SHALL BE CONSTRUCTED TO MEET THE LATEST SMACNA STANDARDS FOR HVAC DUCT CONSTRUCTION.
- T. MEDIUM PRESSURE BRANCH DUCT RUN-OUTS TO AIR TERMINAL UNITS SHALL BE SAME SIZE AS AIR TERMINAL UNIT INLET. UNLESS NOTED OTHERWISE, INCREASE DUCT SIZE BY 2" IF THE DISTANCE BETWEEN THE MAIN DUCT AND THE TERMINAL UNIT INLET IS GREATER THAN 6'-0" AND / OR UTILIZES MORE THAN 240 DEGREE ELBOWS. PROVIDE A SPIN-IN FLARED CONICAL TAP AT MEDIUM PRESSURE DUCT MAIN AND EXTEND AS SHOWN. FLEXIBLE DUCTWORK SHALL NOT BE USED TO MAKE CHANGES IN DIRECTION IN MEDIUM PRESSURE DUCT.
- U. ACCESS PANELS SHALL BE PROVIDED FOR EACH LOCATION WHERE EQUIPMENT, MANUAL VALVES, AUTOMATIC CONTROL VALVES, AUTOMATIC DAMPER MECHANISMS, FIRE/SMOKE DAMPERS, ETC., ARE INSTALLED BEHIND FURNINGS, CHASES, OR ABOVE INACCESSIBLE CEILINGS. SIZE AND POSITION EACH ACCESS PANEL SO THAT THE CONCEALED EQUIPMENT CAN BE PROPERLY SERVICED. MINIMUM SIZE SHALL BE 18" X 18" UNLESS FIELD CONDITIONS DICTATE OTHERWISE. REFER TO ARCHITECTURAL DRAWINGS / SPECIFICATIONS AND COORDINATE WITH GENERAL CONTRACTOR FOR EXACT LOCATION, CONDITIONS, SIZES, FINISHES, ETC.
- V. PROVIDE REMOTE DAMPER OPERATORS FOR EACH LOCATION WHERE VOLUME DAMPERS ARE INSTALLED BEHIND FURNINGS, CHASES, OR ABOVE INACCESSIBLE CEILINGS. SIZE AND POSITION REMOTE DAMPER OPERATOR SO THAT THE CONCEALED VOLUME DAMPERS CAN BE ADJUSTED. REMOTE OPERATOR SHALL BE A STRAIGHT SOLID SHAFT EXTENSION IN-LINE FOR DIRECT CONNECTION TO VOLUME DAMPER SHAFT WITHOUT GEAR MECHANISM, UNLESS OTHERWISE INDICATED ON THE DRAWINGS. COORDINATE WITH ARCHITECT AND GENERAL CONTRACTOR FOR APPROVAL. EXACT LOCATION, CONDITIONS, SIZES, FINISHES, ETC.
- W. HVAC SYSTEMS SHALL BE INSTALLED COMPLETE WITH ALL BALANCING AND REGULATING DEVICES NECESSARY FOR THE TAB CONTRACTOR TO PERFORM THEIR WORK. COORDINATE WITH THE TAB CONTRACTOR TO DETERMINE THEIR EXACT REQUIREMENTS. ALL HVAC SYSTEMS SHALL BE STARTED PER MANUFACTURER'S START-UP INSTRUCTIONS. REPLACE FILTERS, BELTS, SHEAVES, DAMPERS, VALVES, STARTERS AND HEATERS AS NECESSARY PRIOR TO TAB.
- X. CONTRACTOR SHALL PROVIDE ALL TESTING, ADJUSTING, AND BALANCING WORK TO INCLUDE, BUT NOT LIMITED TO, ADJUSTMENT OF DAMPERS, BALANCE AIR DEVICES, VERIFY CORRECT SETPOINT AND CALIBRATION OF THERMOSTATS, VERIFY ALL SEQUENCE OF OPERATION, STAGINGS OF COOLING HEATING AS APPLICABLE, BALANCE OF CONDENSER AND HEATING WATER SYSTEMS, PUMPS, BOILERS, COOLING TOWERS, NOTE DEFICIENCIES IN MECHANICAL SYSTEM, ETC. FOR A CORRECTLY OPERATING MECHANICAL SYSTEM. CONTRACTOR SHALL REPLACE ALL FILTERS AND CLEAN ALL STRAINERS. TESTING AND BALANCING SUBCONTRACTOR MUST BE A MEMBER IN GOOD STANDING OF ASAC AND SUBMIT REPORT ON ASAC OR SMACNA FORMS FOR APPROVAL BY THE ENGINEER. PROVIDE A TEST AND BALANCE REPORT TO THE MECHANICAL INSPECTOR AT TIME OF HEATING FINAL INSPECTION. TAB CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR TO LOCATE DP SENSORS IN PIPING FOR PUMPING SYSTEMS AND STATIC PRESSURE SENSORS IN DUCTWORK FOR FAN SYSTEMS.
- Y. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS. CONTRACTOR SHALL ENSURE THE FURNISHING AND INSTALLATION OF ALL BRANCH ELECTRICAL CIRCUIT WIRING, CONDUITS, PROTECTIVE DEVICES, DISCONNECTS, AND ACCESSORIES FOR ALL ELECTRICAL CONTROL POWER WIRING TO INCLUDE, BUT NOT LIMITED TO, CONTROL PANELS, ACTUATORS, SMOKE DETECTORS, CONTROL / MOTORIZED DAMPER, PRESSURE MONITORS, FIRE/SMOKE DAMPERS, VARIABLE FREQUENCY DRIVES, VAV TERMINALS (24V TRANSFORMER) AND ALL OTHER 120V CONTROLS AS REQUIRED FOR A COMPLETE CONTROL SYSTEM WHETHER SHOWN TO BE PERFORMED BY OTHER OR NOT. ALL ELECTRICAL WORK SHALL BE INSTALLED IN FULL ACCORDANCE WITH REQUIREMENTS OF ELECTRICAL SPECIFICATIONS AND THE NATIONAL ELECTRICAL CODE.
- Z. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND SIZE OF LOUVERS. BLANK OFF AREA OF LOUVER NOT USED FOR INTAKE OR EXHAUST. LOUVERS SHALL BE DRAINABLE STATIONARY TYPE AND SHALL BE AMCA 500-L CERTIFIED. LOUVERS LOCATED IN HURRICANE-PRONE REGIONS SHALL BE AMCA 550 CERTIFIED. LOUVERS LOCATED IN WIND-BOURNE DEBRIS REGIONS WITHIN 30 FEET OF GRADE SHALL BE AMCA 540 CERTIFIED.
- AA. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING FINISHES AND FURNISHINGS FROM DAMAGE DURING WORK.
- BB. CONTRACTOR TO PROVIDE TEMPORARY SPACE CONDITIONING DURING ALL HVAC EQUIPMENT OUTAGES AND PRIOR TO HVAC EQUIPMENT START-UP.
- CC. COMMISSIONING OF THE MECHANICAL SYSTEMS ON THIS PROJECT IS PART OF THE SCOPE OF WORK. DOCUMENTATION AND TESTING OF THESE SYSTEMS, AS WELL AS TRAINING OF THE OWNER'S OPERATION / MAINTENANCE PERSONNEL, IS REQUIRED IN COOPERATION WITH THE OWNER'S REPRESENTATIVE AND THE COMMISSIONING AGENT. PROJECT CLOSEOUT IS DEPENDENT ON SUCCESSFUL COMPLETION OF ALL COMMISSIONING PROCEDURES, DOCUMENTATION, AND ISSUE CLOSURE.
- DD. ALL PIPES, DUCTS, AND OTHER EQUIPMENT SHALL BE PROPERLY SUPPORTED BY GALVANIZED OR CADMIUM PLATED ANCHOR BOLTS, ALL THREAD RODS AND WASHERS, LOCK WASHERS OR DOUBLE NUTS, AND BOLTS.
- EE. INSTALLING CONTRACTOR SHALL STRICTLY ADHERE TO ANCHOR BOLT MANUFACTURER'S INSTALLATION RECOMMENDATIONS REGARDING PULL-OUT LOADS, ANCHOR DIAMETER AND DEPTH OF ANCHOR INSERTION FOR DRILLING THE ANCHOR POINT IN CONCRETE.
- FF. SUBMIT SUPPORT LOCATIONS AND LOADS OF PIPES GREATER THAN 6" DIAMETER TO STRUCTURAL ENGINEER FOR REVIEW.
- GG. POST-INSTALLED ANCHOR BOLTS ARE NOT PERMITTED TO BE INSTALLED IN THE SOFFIT OF BEAMS OR JOISTS.
- HH. POST-INSTALLED ANCHOR BOLTS INSTALLED ON THE SIDE OF BEAMS OR JOISTS SHALL BE LOCATED A MINIMUM OF 5' FROM BOTTOM OF THE BEAM OR JOIST.
- II. NO PIPE HANGERS SHALL BE SPACED MORE THAN 10'-0" O.C. COMPLY WITH PIPE SPACING AS SPECIFIED IN THE PIPING SUPPORT SPECIFICATIONS.
- JJ. ALL PIPING LOCATED INSIDE BUILDING SHALL BE SUPPORTED FROM THE STRUCTURE WITH SADDLE OR TRAPEZE HANGERS WITH ADJUSTABLE CLEVIS OR THREADED RODS.
- KK. COORDINATE LOCATIONS OF FLOOR AND WALL OPENINGS WITH ARCHITECT AND STRUCTURAL ENGINEER.
- LL. PROVIDE INSULATED DUCT ACCESS DOORS FOR DUCTWORK DOWNSTREAM OF AIR HANDLING UNITS AT EVERY 20'-0" TO FACILITATE DUCT CLEANING. PROVIDE DUCT ACCESS DOORS WITHIN 5'-0" OF EACH ELBOW.
- MM. MECHANICAL CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF ALL OUTSIDE AIR INTAKES TO MAINTAIN 15 FEET DISTANCE BETWEEN OUTSIDE AIR INTAKES AND ANY EXHAUST AIR OUTLET, FLUES OR PLUMBING VENTS.
- NN. MECHANICAL CONTRACTOR SHALL COORDINATE WITH PLUMBING CONTRACTOR FOR ALL CONDENSATE DRAIN PIPES CONNECTING TO A LAVATORY / SINK DRAIN TAIL PIECE.
- OO. ALL KITCHEN GREASE EXHAUST DUCTWORK SHALL BE CONTINUOUSLY WELDED 16 GA. CARBON STEEL. ALL GREASE EXHAUST DUCTS SHALL BE WRAPPED WITH 3M 2-HR. FIRE RATED WRAP OR INSTALLED WITHIN A FIRE RATED ENCLOSURE.

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TISD INNOVATION CENTER  
BLDG.4 RENOVATION

Tomball ISD

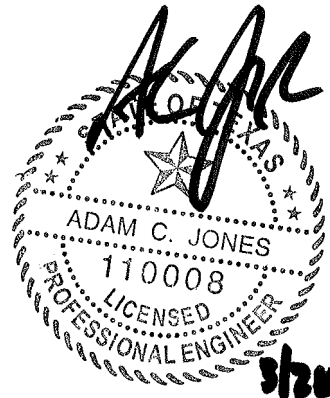
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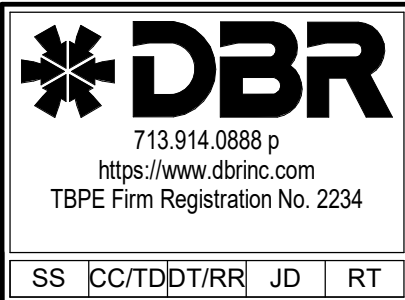
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DRAWN: Author  
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M0.11

MECHANICAL  
GENERAL  
NOTES



M01.1	EXISTING EQUIPMENT AND ALL ASSOCIATED CONTROLS, ELECTRICAL, VALVES, HANGERS, SUPPORTS, DUCTWORK, AIR DEVICES, PIPING, AND ACCESSORIES SHALL BE REMOVED.
M02.2	EXISTING SUPPLY DIFFUSER AND ALL ASSOCIATED DAMPERS, HANGERS, AND ACCESSORIES SHALL BE REMOVED BACK TO SUPPLY TRUNK MAIN, CAP, SEAL, AND INSULATE RESULTING DUCT OPENING.
M03.3	EXISTING EXHAUST GRILLE AND ALL ASSOCIATED DAMPERS, HANGERS, AND ACCESSORIES SHALL BE REMOVED BACK TO EXHAUST TRUNK MAIN, CAP, SEAL, AND INSULATE RESULTING DUCT OPENING.
M04.4	EXISTING RETURN GRILLE AND ALL ASSOCIATED DAMPERS, HANGERS, AND ACCESSORIES SHALL BE REMOVED BACK TO RETURN TRUNK MAIN, CAP, SEAL, AND INSULATE RESULTING DUCT OPENING.
M06.6	EXISTING THERMOSTAT TO REMAIN.
M07.7	EXISTING EQUIPMENT TO REMAIN.
M08.8	EXISTING THERMOSTAT SENSOR TO BE RELOCATED TO APPROXIMATE LOCATION SHOWN.
M09.9	EXISTING OUTDOOR AIR DUCTWORK TO BE COMPLETELY REMOVED.
M11.1	PROVIDE SPIN-IN FITTING WITH LOCKING QUADRANT BUTTERFLY DAMPER FOR ALL ROUND DUCT CONNECTIONS TO RECTANGULAR DUCT. TYPICAL RE DETAIL 5.9M5.01.
M12.12	OUTSIDE AIR DUCTWORK TO BE ROUTED TO EXISTING ROOF PENETRATION.
M22.1	ROUTE CONDENSATE DRAIN LINE FROM FAN COIL UNIT TO NEAREST MOP SUMP. COORDINATE EXACT CONNECTION WITH PLUMBING. SEE S&B INDICATED. RE DETAIL 5.9M5.01.

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| M01.1  | EXISTING EQUIPMENT AND ALL ASSOCIATED CONTROLS, ELECTRICAL, VALVES, HANGERS, SUPPORTS, DUCTWORK, AIR DEVICES, PIPING, AND ACCESSORIES SHALL BE REMOVED.                   |
| M02.2  | EXISTING SUPPLY DIFFUSER AND ALL ASSOCIATED DAMPERS, HANGERS, AND ACCESSORIES SHALL BE REMOVED BACK TO SUPPLY TRUNK MAIN, CAP, SEAL, AND INSULATE RESULTING DUCT OPENING. |
| M03.3  | EXISTING EXHAUST GRILLE AND ALL ASSOCIATED DAMPERS, HANGERS, AND ACCESSORIES SHALL BE REMOVED BACK TO EXHAUST TRUNK MAIN, CAP, SEAL, AND INSULATE RESULTING DUCT OPENING. |
| M04.4  | EXISTING RETURN GRILLE AND ALL ASSOCIATED DAMPERS, HANGERS, AND ACCESSORIES SHALL BE REMOVED BACK TO RETURN TRUNK MAIN, CAP, SEAL, AND INSULATE RESULTING DUCT OPENING.   |
| M06.6  | EXISTING THERMOSTAT TO REMAIN.  |
| M07.7  | EXISTING EQUIPMENT TO REMAIN.   |
| M08.8  | EXISTING THERMOSTAT SENSOR TO BE RELOCATED TO APPROXIMATE LOCATION SHOWN.   |
| M09.9  | EXISTING OUTDOOR AIR DUCTWORK TO BE COMPLETELY REMOVED.   |
| M11.1  | PROVIDE SPIN-IN FITTING WITH LOCKING QUADRANT BUTTERFLY DAMPER FOR ALL ROUND DUCT CONNECTIONS TO RECTANGULAR DUCT. TYPICAL RE DETAIL 5.9M5.01.                            |
| M12.12 | OUTSIDE AIR DUCTWORK TO BE ROUTED TO EXISTING ROOF PENETRATION.   |
| M22.1  | ROUTE CONDENSATE DRAIN LINE FROM FAN COIL UNIT TO NEAREST MOP SUMP. COORDINATE EXACT CONNECTION WITH PLUMBING. SEE S&B INDICATED. RE DETAIL 5.9M5.01.                     |

M2.2 ROUTE 3/4" CONDENSATE DRAIN LINE FROM INDOOR UNIT TO PLUMBING  
SPECIFICATIONS LOCATED BELOW LAVATORY. COORDINATE EXISTING CONNECTION  
LOCATION TO PLUMBING.

M2.3 ROUTE REFRIGERANT PIPING FROM WALL MOUNTED DUCTLESS FAN COIL  
UNIT TO ASSOCIATED AIR HANDLING UNIT. REFRIGERANT PIPING SHALL BE  
SIZED PER MANUFACTURER'S RECOMMENDATIONS. FIELD COORDINATE EXIST  
ROUTING. RE: DETAIL 7.8MX.XX.

M2.12 ROUTE REFRIGERANT PIPING FROM FAN COIL UNIT TO ASSOCIATED AIR  
COOLED CONDENSING UNIT. REFRIGERANT PIPING SHALL BE SIZED PER  
MANUFACTURER'S RECOMMENDATIONS. FIELD COORDINATE EXIST  
ROUTING. RE: DETAIL 7.8MX.01.

M3.6 PROVIDE WIRED WALL MOUNTED CONTROLLER FOR DUCTLESS AIR  
CONDITIONING UNIT. CONTROLLER SHALL BE PROVIDED BY DUCTLESS AIR  
CONDITIONING UNIT MANUFACTURER. INSTALL AT SAME ELEVATION AS  
LIGHT SWITCHES. COORDINATE FINAL LOCATION WITH ARCHITECT AND  
OTHER TRADES TO AVOID CONFLICTS.

M4.13 PROVIDE WALL MOUNTED DUCTLESS FAN COIL UNIT AT APPROXIMATE  
LOCATION SHOWN. INSTALL UNIT AS HIGH AS POSSIBLE ON WALL.

M4.14 PROVIDE GRADE MOUNTED AIR COOLED CONDENSING UNIT AT  
APPROXIMATE LOCATION SHOWN. INSTALL UNIT ON HOUSE/KEEPING PAD.  
PROVIDE ALL CLEARANCES AROUND CONDENSER AS REQUIRED BY  
EQUIPMENT MANUFACTURER. RE: DETAIL 5MX.01.

M4.18 PROVIDE FAN COIL UNIT AS SCHEDULED. UNIT SHALL BE SUSPENDED FROM  
STRUCTURE ABOVE. PROVIDE WITH VIBRATION ISOLATION PER  
SPECIFICATIONS. PROVIDE FIELD FABRICATED MIXING BOX THE SAME SIZE  
AS THE RETURN AIR CONNECTION. RE: DETAIL 4MX.01.

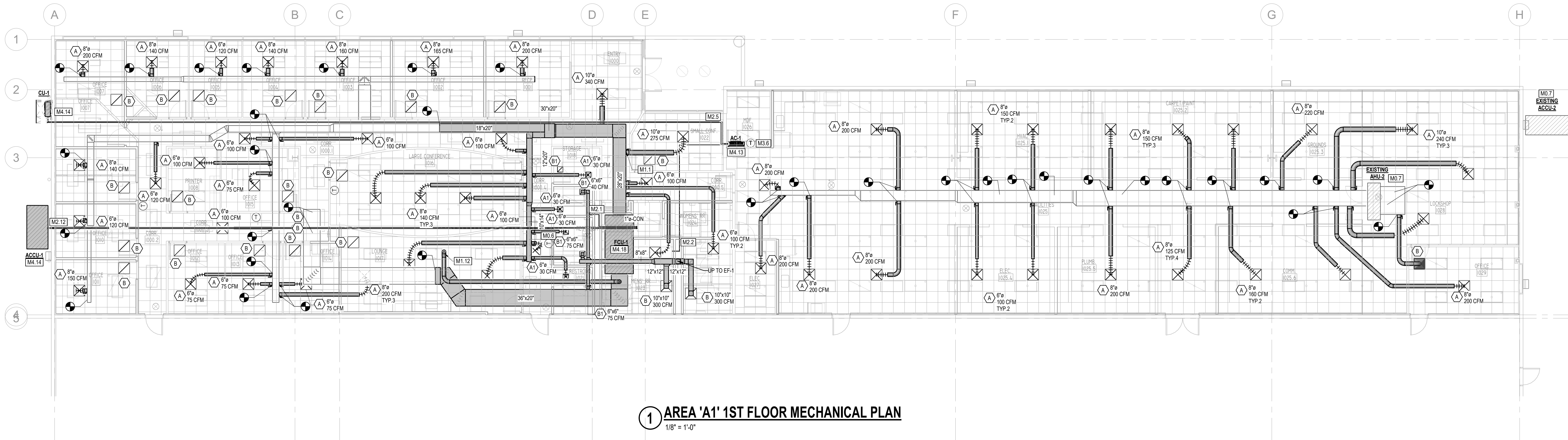
- M2.2 ROUTE 3/4" CONDENSATE DRAIN LINE FROM INDOOR UNIT TO PLUMBING  
SPECIFICATIONS LOCATED BELOW LAVATORY. COORDINATE EXISTING CONNECTION  
LOCATION TO PLUMBING.
- M2.3 ROUTE REFRIGERANT PIPING FROM WALL MOUNTED DUCTLESS FAN COIL  
UNIT TO ASSOCIATED AIR HANDLING UNIT. REFRIGERANT PIPING SHALL BE  
SIZED PER MANUFACTURER'S RECOMMENDATIONS. FIELD COORDINATE EXIST  
ROUTING. RE: DETAIL 7.8MX.XX.
- M2.12 ROUTE REFRIGERANT PIPING FROM FAN COIL UNIT TO ASSOCIATED AIR  
COOLED CONDENSING UNIT. REFRIGERANT PIPING SHALL BE SIZED PER  
MANUFACTURER'S RECOMMENDATIONS. FIELD COORDINATE EXIST  
ROUTING. RE: DETAIL 7.8MX.01.
- M3.6 PROVIDE WIRED WALL MOUNTED CONTROLLER FOR DUCTLESS AIR  
CONDITIONING UNIT. CONTROLLER SHALL BE PROVIDED BY DUCTLESS AIR  
CONDITIONING UNIT MANUFACTURER. INSTALL AT SAME ELEVATION AS  
LIGHT SWITCHES. COORDINATE FINAL LOCATION WITH ARCHITECT AND  
OTHER TRADES TO AVOID CONFLICTS.
- M4.13 PROVIDE WALL MOUNTED DUCTLESS FAN COIL UNIT AT APPROXIMATE  
LOCATION SHOWN. INSTALL UNIT AS HIGH AS POSSIBLE ON WALL.
- M4.14 PROVIDE GRADE MOUNTED AIR COOLED CONDENSING UNIT AT  
APPROXIMATE LOCATION SHOWN. INSTALL UNIT ON HOUSE/KEEPING PAD.  
PROVIDE ALL CLEARANCES AROUND CONDENSER AS REQUIRED BY  
EQUIPMENT MANUFACTURER. RE: DETAIL 5MX.01.
- M4.18 PROVIDE FAN COIL UNIT AS SCHEDULED. UNIT SHALL BE SUSPENDED FROM  
STRUCTURE ABOVE. PROVIDE WITH VIBRATION ISOLATION PER  
SPECIFICATIONS. PROVIDE FIELD FABRICATED MIXING BOX THE SAME SIZE  
AS THE RETURN AIR CONNECTION. RE: DETAIL 4MX.01.

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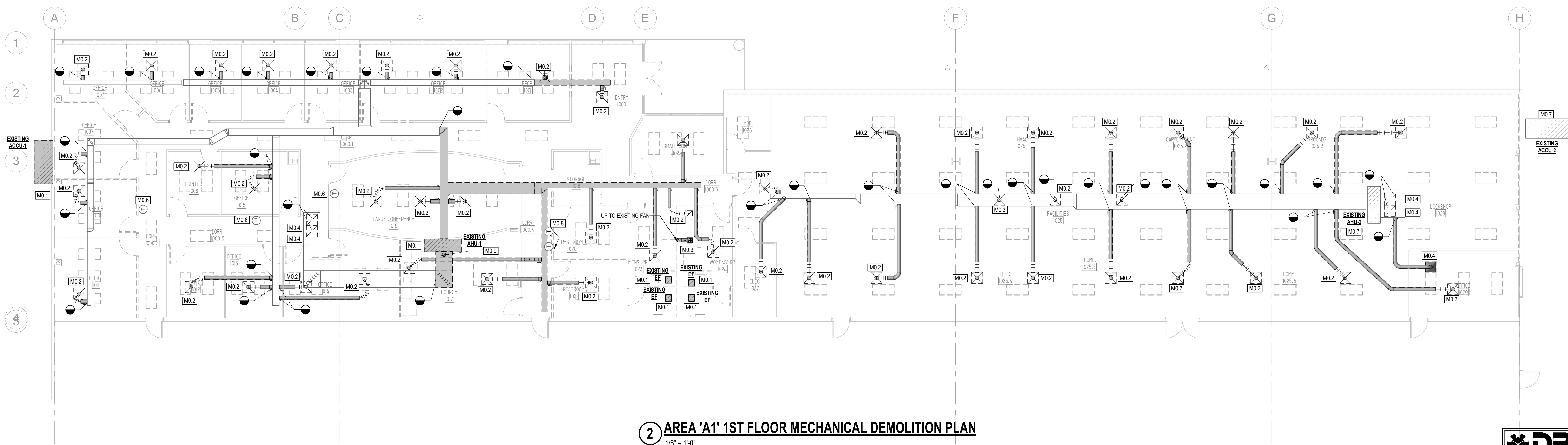
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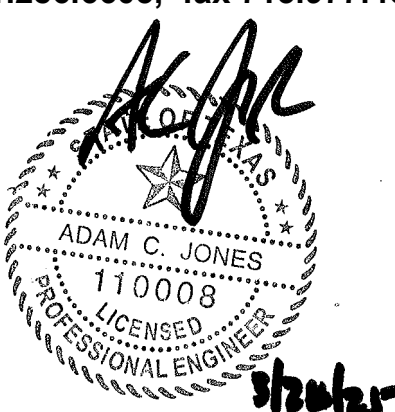
**1 AREA 'A1' 1ST FLOOR MECHANICAL PLAN**  
1/8" = 1'-0"



## 2 AREA 'A1' 1ST FLOOR MECHANICAL DEMOLITION PLAN



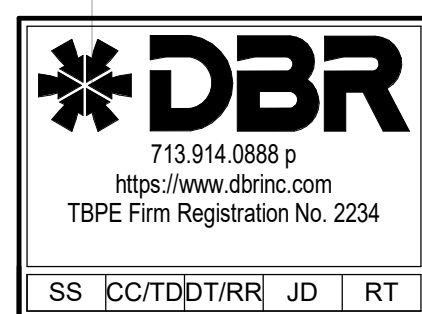
**1330 POST OAK BOULEVARD, SUITE 2250**  
**HOUSTON, TX 77056**  
**tel 281.286.6605, fax 713.977.4620**



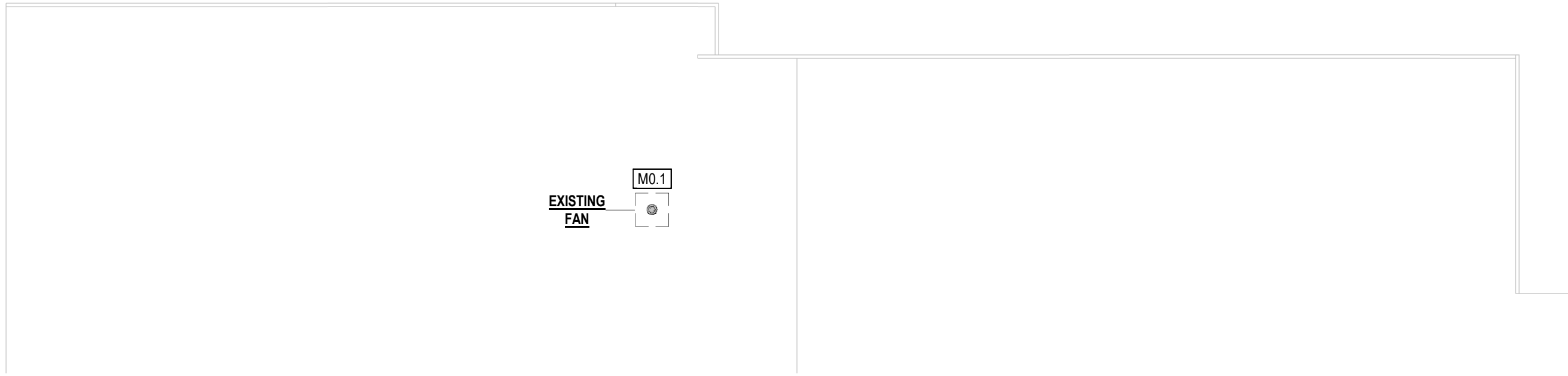
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CHECKED: DBR	
DATE	ISSUE
2025-03-31	PROPOSAL AND PERMIT

## M2.11

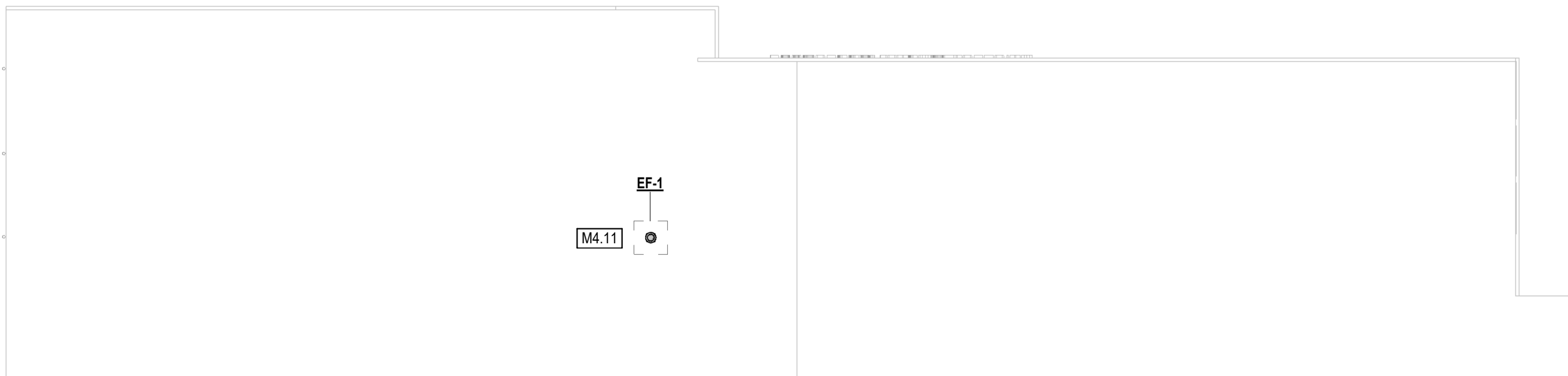
AREA 'A1' 1ST  
FLOOR  
MECHANICAL  
PLAN







1 DEMOLITION MECHANICAL ROOF PLAN  
1" = 20'-0"



2 MECHANICAL ROOF PLAN  
1" = 20'-0"

MECHANICAL KEYED NOTES

M0.1 EXISTING EQUIPMENT AND ALL ASSOCIATED CONTROLS, ELECTRICAL, VALVES, HANGERS, SUPPORTS, DUCTWORK, AIR DEVICES, PIPING, AND ACCESSORIES SHALL BE REMOVED.

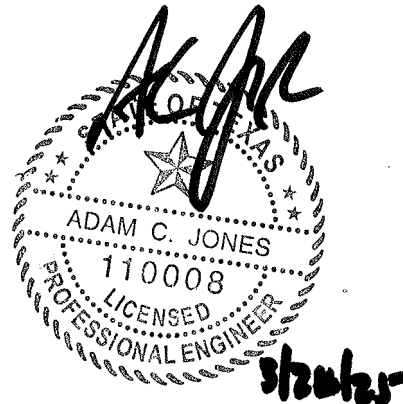
M4.11 PROVIDE ROOF MOUNTED EXHAUST FAN AT APPROXIMATE LOCATION SHOWN. PROVIDE FAN WITH ROOF CURB TO MATCH ROOF SLOPE. RE: DETAIL 11M5.01.

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A

TISD INNOVATION CENTER  
BLDG.4 RENOVATION  
Tomball ISD  
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ARCADIS  
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M2.31  
MECHANICAL  
ROOF PLAN





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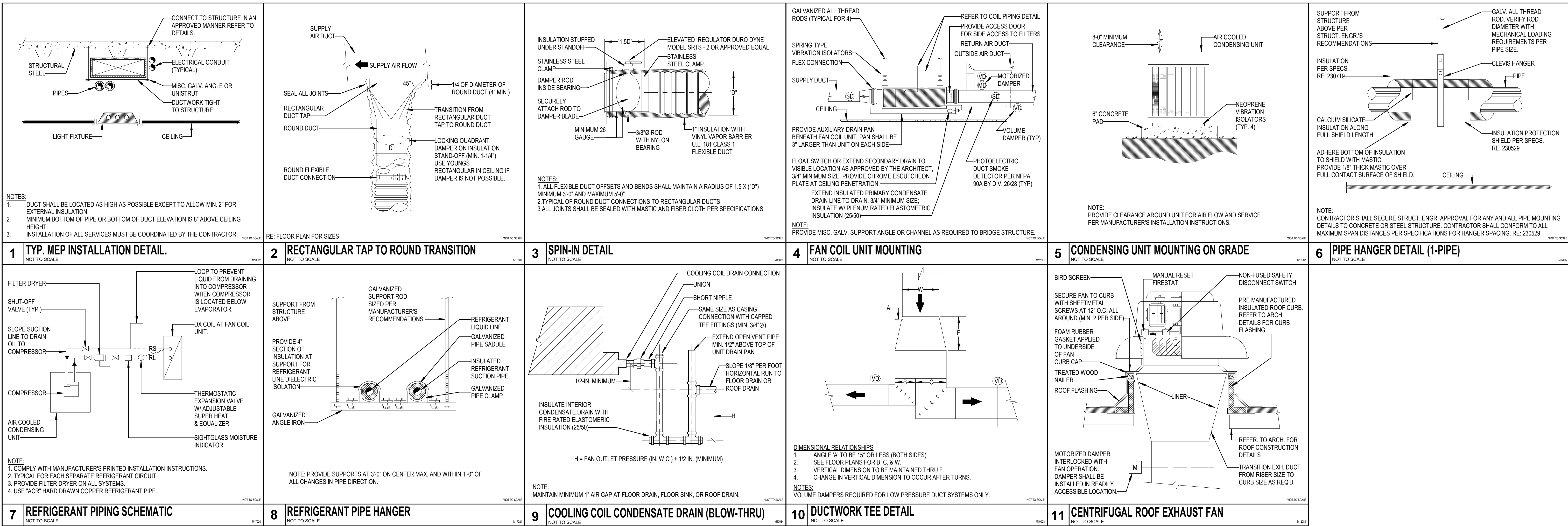
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ADAM C. JONES  
11 0008  
Professional Engineer  
State of Texas

PROJECT #: 202415  
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M5.01  
MECHANICAL  
DETAILS AND  
SCHEDULES

DBR  
713.914.0888 p  
https://www.dbrinc.com  
TBPE Firm Registration No. 2234  
SS CC/TDD/T/RR JD RT



DX FAN COIL UNIT SCHEDULE		
MARK		FCU-1
SUPPLY AIR FLOW RATE (CFM)		4,700
OUTSIDE AIR FLOW RATE (CFM)		735
EXT. S.P. (IN. W.G.)		1.5
FAN MOTOR HORSEPOWER		6
FAN MOTOR CONTROL (VFD, STARTER, OR SINGLE POINT)		ECM
FAN RPM		2151
COOLING EAT DBWB (°F)		82.2 / 67.65
COOLING LAT DBWB (°F)		53.1 / 53.04
TOTAL COOLING CAPACITY (MBH)		208.7
SENSIBLE COOLING CAPACITY (MBH)		148.4
HEATING EAT DB (°F)		63.7
HEATING LAT DB (°F)		85.0
HEATING CAPACITY (KW)		32.0
NO. OF HEATING STAGES		SCR
MCA / MOCP		58.63 / 60
VOLTS/PHASE/HERTZ		480/3/60
MANUFACTURER		TRANE
MODEL NO.		CSAA
NOTES		ALL

- NOTES:
- EXTERNAL STATIC PRESSURE DOES NOT ACCOUNT FOR LOSSES DUE TO COIL(S), FILTERS, HOUSING, NOR ACCESSORIES.
  - UNIT SHALL BE SUSPENDED FROM STRUCTURE ABOVE. PROVIDE WITH VIBRATION ISOLATION PER SPECIFICATIONS.
  - PROVIDE SECONDARY DRAIN PAN WITH FLOAT SWITCH TO DE-ENERGIZE UNIT WHEN PRIMARY DRAIN BECOMES RESTRICTED.
  - PROVIDE ELECTRIC REHEAT COIL AT FAN DISCHARGE.
  - PROVIDE SINGLE POINT ELECTRICAL POWER FOR FAN AND ELECTRIC HEAT.

AIR COOLED CONDENSING UNIT SCHEDULE		
MARK		ACCU-1
SERVES		FCU-1
TOTAL COOLING CAPACITY (MBH)		208.7
AMBIENT TEMP. (°F)		105
STEPS OF CAPACITY		2
EER		12.1
IEER		14.2
VOLTS/PHASE/HERTZ		480/3/60
MCA		54.0
MOCP		70.0
MANUFACTURER		TRANE
MODEL NUMBER		TTA240
OPERATING WEIGHT (LBS.)		802
NOTES		ALL

- NOTES:
- INSTALL PER MANUFACTURER'S SPECIFICATIONS.
  - REFRIGERANT LINES TO BE SIZED BY MANUFACTURER.
  - PROVIDE WITH CONDENSER COIL HAIL GUARD.
  - PROVIDE WITH LOW AMBIENT HEAD PRESSURE CONTROL.
  - CONDENSING UNIT SHALL COMPLY WITH 2021 IECC WITH 10% EER EFFICIENCY IMPROVEMENT.

LAY IN SLOT NECK SCHEDULE		
DUCT SIZE		CFM RANGE
6"Ø		UP TO 125
8"Ø		125-165
10"Ø		170-195
12"Ø		200-240

CONDENSATE PIPE SCHEDULE		
PIPE SIZE		COIL CAPACITY TONS [MBH]
3/4"Ø		UP TO 10 TONS [UP TO 120 MBH]
1"Ø		10 - 20 TONS [240 - 240 MBH]
1 1/4"Ø		20 - 40 TONS [240 - 480 MBH]
1 1/2"Ø		40 - 90 TONS [480 MBH - 1,080 MBH]
2"Ø		90 - 250 TONS [1,080 MBH - 3,000 MBH]

DUCT AND AIR DEVICE NECK SCHEDULE		
DUCT SIZE		CFM RANGE
6"Ø		UP TO 120
8"Ø		125 - 220
10"Ø		225 - 340
12"Ø		345 - 500
14"Ø		505-700

AIR DEVICE SCHEDULE				
MARK	MFR. & MODEL	TYPE	REMARKS	
A	TITUS TMS-AA	LOUVERED FACE SUPPLY AIR DIFFUSER	24"x24" FACE, ALUMINUM CONSTRUCTION WITH FRAME FOR LAY-IN CEILING OR SURFACE MOUNT. SHALL HAVE ADJUSTABLE DISCHARGE PATTERN.	
B	TITUS PAR-AA	PERFORATED FACE RETURN/EXHAUST AIR GRILLE	24"x24" FACE, ALUMINUM CONSTRUCTION WITH FRAME FOR LAY-IN CEILING OR GYP-BOARD CEILING. PROVIDE 2"X2" NECK UNLESS OTHERWISE NOTED. PROVIDE O.B.D. FOR DUCTED EXHAUST.	
A1	TITUS TDC-AA	LOUVERED FACE SUPPLY AIR DIFFUSER	12"x12" FACE, ALUMINUM CONSTRUCTION WITH FRAME FOR SURFACE MOUNT.	
B1	TITUS PAR-AA	PERFORATED FACE RETURN/EXHAUST AIR GRILLE	12"x12" FACE, ALUMINUM CONSTRUCTION WITH FRAME FOR LAY-IN CEILING. PROVIDE 10"x10" NECK UNLESS OTHERWISE NOTED. PROVIDE O.B.D. FOR DUCTED EXHAUST.	

- NOTES:
- REFER TO ARCHITECTURAL DRAWINGS FOR FINISH.
  - REFER TO MECHANICAL FLOOR PLAN FOR NECK SIZES.



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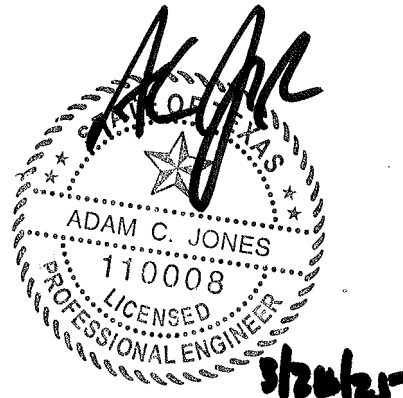
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BLDG.4 RENOVATION

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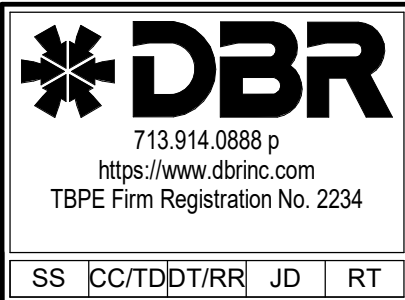
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M7.01

MECHANICAL  
CONTROL  
DIAGRAMS



<div>AI</div>	ANALOG INPUT	<div>S</div>	WALL SENSOR
<div>AO</div>	ANALOG OUTPUT	<div>T</div>	THERMOSTAT
<div>D/BI</div>	DIGITAL/BINARY INPUT	<div>CO2</div>	CARBON DIOXIDE SENSOR
<div>D/BO</div>	DIGITAL/BINARY OUTPUT	<div>SP</div>	SET POINT
<div>MD</div>	ON-OFF MOTORIZED DAMPER	<div>SIA</div>	SUPPLY AIR
<div>MMD</div>	MODULATING TYPE MOTORIZED DAMPER	<div>R/A</div>	RETURN AIR
<div>AFMS</div>	AIR FLOW MEASURING STATION	<div>O/A</div>	OUTSIDE AIR
<div>MCV</div>	CONTROL VALVE-MODULATING TYPE	<div>HC</div>	HEATING COIL
<div>VFD</div>	VARIABLE FREQUENCY DRIVE	<div>CC</div>	COOLING COIL
<div>CSR</div>	CURRENT SENSING RELAY	<div>DX</div>	DIRECT EXPANSION COOLING COIL
<div>FRZ</div>	FREEZE/STAT	<div>PICCV</div>	PRESSURE INDEPENDENT CHARACTERIZED CONTROL VALVE
<div>HSL</div>	HIGH STATIC LIMIT	<div>AFC</div>	AIRFLOW CROSS
<div>SPT</div>	STATIC PRESSURE TRANSMITTER	<div>DPS</div>	DIFFERENTIAL PRESSURE SWITCH
<div>DPT</div>	DIFFERENTIAL PRESSURE TRANSDUCER		
<div>FM</div>	FLOW METER		
<div>FS</div>	FLOW SWITCH		
<div>DAT</div>	DISCHARGE AIR TEMPERATURE SENSOR		

1 CONTROL SCHEMATIC LEGEND  
NOT TO SCALE

NOTES:  
1. Provide 2-way automatic control valve unless otherwise indicated in mechanical schedules or control specifications.

**System Off - When the system is off:**  
The supply air fan shall be off.  
The outside air damper shall be closed.  
The chilled water coil valve shall be closed.  
The hot water coil valve(s) shall be closed.  
The control loops shall be disabled.

**System Start-up - System start-up shall be initiated:**  
By an operator entered manual command at the EMCS.  
Automatically by the EMCS based on Time of Day Schedule.

**System Operation - When system start-up has been initiated, the following sequences shall be implemented:**  
The fan coil unit shall be integrated with the EMCS to monitor fan status, schedule run times, and to adjust space temperature setpoints. The outside air motorized isolation damper shall open.

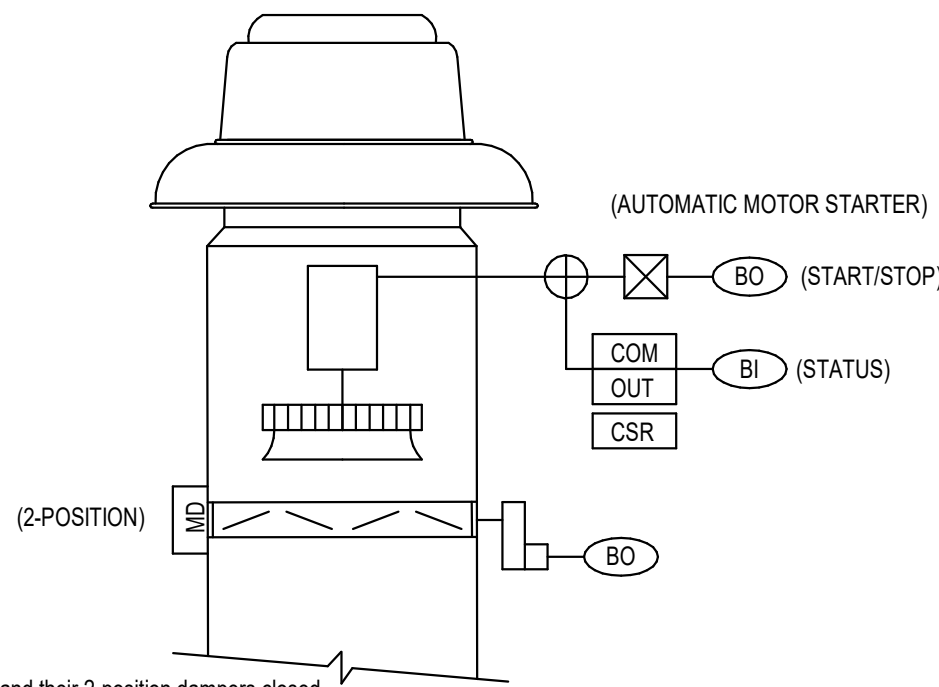
**COOLING MODE:** When the space temperature is above the Cooling Setpoint, the chilled water coil control valve shall be modulated between 0-100%, to maintain the space temperature within +/- 0.5 °F of the Cooling Setpoint. The chilled water coil discharge temperature shall not be allowed to go below the chilled water coil low-limit setpoint.  
**HEATING MODE:** When the space temperature is below the Heating Setpoint, the hot water coil control valve shall be modulated between 0-100%, to maintain the space temperature within +/- 0.5 °F of the Heating Setpoint.  
**FREEZE PROTECTION:** When the outdoor air temperature drops below the freeze protection setpoint, the EMCS shall open the chilled water control valve(s) to 50% open (adj.) for water circulation through the coil. The control valve shall return to normal operating conditions when the ambient temperature is above the freeze protection setpoint for 10 minutes (adj.). Refer to the Chilled Water System Control Diagram for further information.

**System Setpoints - The setpoints for the system shall be set as follows:**  
The Cooling Setpoint shall be set initially at 75 °F (adjustable).  
The Heating Setpoint shall be set initially at 70 °F (adjustable).  
The design airflow rates shall be set at the values given in the Mechanical Drawings.  
The outdoor air temperature freeze protection setpoint shall be 37°F (adj.).

**System Alarms - The EMCS shall generate an alarm as follows:**  
If the space temperature is 5 °F (adj.) above the cooling setpoint.  
If the space temperature is 5 °F (adj.) below the heating setpoint.  
All alarms shall be inhibited when the supply fan is not operating except the space temperature alarms. The alarms, except the fan failure and the space temperature alarms, shall remain inhibited following startup of the unit for 2 minutes.

2 Fan Coil Unit - Control Schematic and Sequence of Operations  
NOT TO SCALE

AUTOMATICALLY  
CONTROLLED EXHAUST  
FANS (TOILET ROOMS,  
LOCKER ROOMS, ETC.)



**SYSTEM OFF - When the system is off:**  
Automatically controlled exhaust fans shall be off and their 2-position dampers closed.

**SYSTEM START-UP - System start-up shall be initiated:**  
By an operator entered manual command at the EMCS.  
Automatically by the EMCS based on Night-Setback or Time of Day schedule.

**AUTOMATICALLY CONTROLLED EXHAUST FANS:** Upon activation of building occupied mode and start-up of the air handling system, the EMCS shall energize all automatically controlled exhaust fans and open their respective two-position motorized dampers. The EMCS shall monitor the status of each automatically controlled exhaust fan and shall assign the scheduled exhaust numerical CFM value to each fan as indicated on the mechanical equipment schedules. Upon activation of the building unoccupied mode, the automatically controlled building exhaust fans shall be de-energized.

**Fan Status:**  
The controller shall monitor the fan status.

**Alarms shall be provided as follows:**  
Fan Failure: Commanded on, but the status is off.  
Fan in Hand: Commanded off, but the status is on.  
Fan Runtime Exceeded: Fan status runtime exceeds a user definable limit (adj.).

3 Automatically Controlled Exhaust/Supply Fans - Control Schematic and Sequence of Operations  
NOT TO SCALE



ABBREVIATIONS	ELECTRICAL SYMBOLS		GENERAL NOTES: A. NOT ALL SYMBOLS SHOWN ON THIS SYMBOL LIST ARE USED IN THE CONTRACT DOCUMENTS.
AC AF AFC AFF AFO AIC AL AM AMP ANN ASC AT ATF AUX BKR BLDG. C CKT CLG CONT. CONTINUOUS CONTINUATION CONTRACTOR CONTR CT CU DAS DC DISC DP DPST DPST DWG ELEV EPO ERRC FA FF FLA FTL GA GEN GND GTD IG LF LTG LV LVL MAX MC MCA MCCB MD MDP MFR MIC MK MLO MOCB MSB NBR N.C. N.E.C. NF NFS NIC N.L. N.O. NO NTS PH POS QTY RCP RCP1 RE SF SM SKVA SPD SPDT SPST SPEC SQFT ST SWB TL TOC TOS TR TV TYP UG UNO UPS VFD WP WT WSF XFMR	<div><div>MOTORS AND CONTROLS</div><div><div></div><div>MOTOR RATED SWITCH WITH THERMAL OVERLOADS</div></div><div><div></div><div>SINGLE OR THREE PHASE MOTOR NUMBER INDICATES HORSE POWER</div></div><div><div></div><div>ELECTRIC DUCT HEATER</div></div><div><div></div><div>DISCONNECT (SAFETY) SWITCH "200/3150" DENOTES AMPERES/POLE/FUSE. "NP" DENOTES NON-FUSED "NRP" DENOTES NEMA 3R</div></div><div><div></div><div>ENCLOSED CIRCUIT BREAKER- "200/3150" DENOTES AMPERES/POLE/TRIP</div></div><div><div></div><div>MOTOR LOCK (FURNISHED BY DIVISION 23 AND INSTALLED BY DIVISION 26)</div></div><div><div></div><div>COMBINATION DISCONNECT (SAFETY) SWITCH AND MOTOR STARTER "30/315NP" DENOTES AMPERES/POLES/FUSE/STARTER SIZE. "NP" DENOTES NON-FUSED. FURNISHED BY DIVISION 23 AND INSTALLED BY DIVISION 26.</div></div><div><div></div><div>VARIABLE FREQUENCY DRIVE PROVIDED BY DIVISION 23 AND INSTALLED BY DIVISION 26.</div></div><div><div></div><div>EMERGENCY POWER OFF BUTTON.</div></div></div> <div><div>RECEPTACLES AND OUTLETS</div><div><div></div><div>ALL RECEPTACLES SHALL BE MOUNTED 18" ABOVE FINISHED FLOOR TO CENTER OF DEVICE UNLESS NOTED OTHERWISE. REFER TO SPECIFICATIONS AND DRAWINGS FOR ADDITIONAL REQUIREMENTS.</div></div><div><div>ABBREVIATIONS APPLICABLE TO RECEPTACLES:</div><div>"GFCI" GROUND FAULT INTERRUPTER</div><div>"WP" WEATHERPROOF</div><div>"IG" ISOLATED GROUND</div><div>"TR" TAMPER RESISTANT</div><div>"USB" RECEPTACLE WITH USB CHARGING PORTS</div><div>"AC" ABOVE COUNTER MOUNTING</div><div>"UC" UNDER COUNTER MOUNTING</div><div>"H" HORIZONTALLY ORIENTED RECEPTACLE</div></div><div><div></div><div>SIMPLEX WALL RECEPTACLE, NEMA 5-20R, 20A, 125V.</div></div><div><div></div><div>DUPLEX WALL RECEPTACLE, NEMA 5-20R, 20A, 125V.</div></div><div><div></div><div>SHADED INDICATES SPLIT-WIRED</div></div><div><div></div><div>FOURPLEX (QUADRUPLEX) RECEPTACLE</div></div><div><div></div><div>DUPLEX RECEPTACLE (PEDESTAL MOUNTED)</div></div><div><div></div><div>CONTROLLED WALL RECEPTACLE.</div></div><div><div></div><div>DUPLEX SPLIT-WIRED</div></div><div><div></div><div>QUAD SEPARATELY WIRED UNDER A COMMON COVERPLATE.</div></div><div><div></div><div>POWER DEVICE RED IN COLOR, ON EMERGENCY POWER CIRCUIT</div></div><div><div></div><div>CEILING RECEPTACLE/QUAD, EMERGENCY POWER SYMBOL MAY APPLY</div></div><div><div></div><div>SPECIAL RECEPTACLE, NEMA CONFIGURATION PER PLAN OR EQUIPMENT</div></div><div><div></div><div>TV ROUGH-IN 3-GANG RECESSED TV BOX, CONTAINING 1 DUPLEX RECEPTACLE, 1 GANG FOR AV, 1 GANG FOR DATA</div></div><div><div></div><div>FLOOR BOX OR POKE THRU, POKE-THRU'S WHERE IN SUSPENDED SLABS, RECESSED IN FOUNDATION WHERE SLAB ON GRADE</div></div><div><div></div><div>FLUSH ELECTRICAL FLOOR OUTLET. REFER TO FLOOR BOX SCHEDULE, FIRE RATED POKE-THROUGH SCHEDULE AND KEYED NOTES.</div></div><div><div></div><div>DROP CORD WITH SIMPLEX RECEPTACLE UNLESS OTHERWISE NOTED</div></div><div><div></div><div>CORD REEL WITH DUPLEX RECEPTACLE UNLESS OTHERWISE NOTED</div></div><div><div></div><div>JUNCTION BOX</div></div><div><div></div><div>"MD" INDICATES POWER CONNECTION TO SERVE MOTOR DAMPER</div></div><div><div></div><div>"HD" INDICATES POWER CONNECTION TO SERVE HAND DRYER</div></div><div><div></div><div>"RV" INDICATES POWER CONNECTION TO SERVE FLUSH VALVES</div></div><div><div></div><div>PULL BOX (OVER 4" SQUARE)</div></div><div><div></div><div>BELL/BUZZER/CHIME</div></div><div><div></div><div>PUSH BUTTON/DOOR BELL/START-STOP</div></div><div><div></div><div>POWER POLE</div></div><div><div></div><div>POINT OF DIRECT CONNECTION TO EQUIPMENT</div></div><div><div></div><div>CLOCK RECEPTACLE SHALL BE MOUNTED 12" BELOW FINISHED CEILING. (2) DENOTES DOUBLE SIDED CLOCK.</div></div></div> <div><div>LIGHTING</div><div><div>LETTER(S) DENOTE TYPE- SEE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.</div><div><div></div><div>2' X 4'</div></div><div><div></div><div>2' X 2'</div></div><div><div></div><div>1' X 4'</div></div><div><div></div><div>1' X 2'</div></div><div><div></div><div>1' X 1'</div></div></div><div><div></div><div>STRIP LIGHTING FIXTURES.</div></div><div><div></div><div>ROUND DOWNLIGHT FIXTURE.</div></div><div><div></div><div>SQUARE DOWNLIGHT FIXTURE.</div></div><div><div></div><div>WALL MOUNTED LIGHTING FIXTURE.</div></div><div><div></div><div>TRACK LIGHTING FIXTURE. MOUNTED AS SHOWN ON LIGHTING FIXTURE SCHEDULE.</div></div><div><div></div><div>CEILING MOUNTED EXIT SIGN; ARROWS AS INDICATED. SHADED AREA DENOTES FACE.</div></div><div><div></div><div>WALL MOUNTED EXIT SIGN; ARROWS AS INDICATED. SHADED AREA DENOTES FACE.</div></div><div><div></div><div>EMERGENCY WALL MOUNTED LIGHTING FIXTURE. BATTERY OPERATED UNLESS NOTED OTHERWISE.</div></div><div><div></div><div>SITE LIGHTING FIXTURE.</div></div><div><div>HATCHING PATTERNS BELOW SHALL APPLY TO ALL LIGHTING FIXTURE SYMBOLS.</div><div><div></div><div>EMERGENCY LIGHT FIXTURE WITH BATTERY PACK. PROVIDING WITH UNSWITCHED HOT FOR LOSS OF VOLTAGE AND CHARGING (SAME CIRCUIT AS NORMAL POWER LIGHTING). FIXTURES SHALL BE WIRED IN A MANNER AS TO ALLOW SWITCHING OF FIXTURES WITHOUT DISCHARGING THE EMERGENCY BATTERY. BATTERY PACK IS TO ONLY OPERATE IN THE EVENT OF A POWER OUTAGE.</div></div><div><div></div><div>"NL" NIGHT LIGHT ON UNSWITCHED 24HR OPERATION</div></div><div><div></div><div>LIGHT FIXTURE ON LIFE SAFETY BRANCH CIRCUIT. GENERATOR TRANSFER DEVICES REQUIRED (UL1008 OR UL924) PROVIDE UNSWITCHED HOT, NEUTRAL AND GROUND FOR ALL LIFE SAFETY LIGHTING ORIGINATING FROM THE LIFE SAFETY CIRCUIT SHOWN.</div></div><div><div></div><div>CRITICAL OPERATIONS LIGHTING ORIGINATING FROM THE CRITICAL CIRCUIT INDICATED. HATCHED AS INDICATED. HATCHING TYPICAL FOR ALL CRITICAL BRANCH LIGHT FIXTURES</div></div></div></div> <div><div>RACEWAYS AND WIRING</div><div><div></div><div>CAP AND STAKE</div></div><div><div></div><div>CONDUIT CONCEALED IN WALL OR CEILING</div></div><div><div></div><div>UNDERGROUND, UNDERSLAB, CONCEALED ROUTING</div></div><div><div></div><div>OVERHEAD ELECTRIC PRIMARY UTILITY POWER LINE</div></div><div><div></div><div>CONDUIT UP/DOWN</div></div><div><div></div><div>HASH MARKS INDICATE NUMBER OF CONDUCTORS.</div></div><div><div></div><div>LEFT TO RIGHT: PHASE/NEUTRAL/GROUND/ISOLATED SYMBOL.</div></div><div><div></div><div>NO HASH MARKS INDICATES EMPTY CONDUIT, 1" MINIMUM, UNLESS NOTED OTHERWISE.</div></div><div><div></div><div>HOMERUN TO PANEL WITH CIRCUIT NUMBER(S) AS INDICATED.</div></div><div><div></div><div>PARTIAL/SHARED CIRCUIT HOMERUN TO PANEL.</div></div><div><div></div><div>TELECOMMUNICATIONS CABLE TRAY SHALL BE CONCEALED ABOVE ACCESSIBLE CEILING UNLESS OTHERWISE NOTED.</div></div></div> <div><div>ELECTRICAL EQUIPMENT</div><div><div></div><div>DISTRIBUTION PANEL</div></div><div><div></div><div>SWITCHBOARD, MAIN DISTRIBUTION PANEL OR MOTOR CONTROL CENTER</div></div><div><div></div><div>PANELBOARD (FLUSH/SURFACE MOUNT)</div></div><div><div></div><div>FLOOR MOUNTED DRY-TYPE TRANSFORMER</div></div><div><div></div><div>SUSPENDED OR WALL MOUNTED TRANSFORMER</div></div><div><div></div><div>AUTOMATIC TRANSFER SWITCH</div></div><div><div></div><div>FIRE RATED PLYWOOD TERMINAL BOARD, TYPE AS NOTED, 4" X 8" X 3/4" UNLESS NOTED OTHERWISE</div></div></div> <div><div>COMMUNICATIONS</div><div><div>DEFAULT ELEVATION (UNLESS INDICATED OTHERWISE) TO CENTER OF ROUGH-IN: 18" ABOVE FINISHED FLOOR (AFF)</div><div><div></div><div>DATA/COMM/AV ROUGH-IN. CONDUIT TO PLENUM AND BOX ONLY</div></div><div><div></div><div>SCHOOL INTERCOMMUNICATION SYSTEM HANDSET.</div></div><div><div>DEFAULT ELEVATION (UNLESS INDICATED OTHERWISE) TO CENTER OF ROUGH-IN: 42" AFF</div><div><div></div><div>VOLUME CONTROL - WALL MOUNTED</div></div><div><div></div><div>INTERCOM/PA SYSTEM CALL-IN OR CALL-BACK DEVICE</div></div><div><div>DEFAULT ELEVATION (UNLESS INDICATED OTHERWISE) TO CENTER OF ROUGH-IN: 120" AFF OR 12" BELOW CEILING, WHICHEVER IS LOWER</div><div><div></div><div>INTERCOM/PA SPEAKER</div></div><div><div></div><div>1" LOCAL SOUND REINFORCEMENT</div></div><div><div>CEILING MOUNTED DEVICES:</div><div><div></div><div>INTERCOM/PA SPEAKER</div></div><div><div></div><div>VC INDICATES VOLUME CONTROL ON SPEAKER.</div></div><div><div>REFERENCE TECHNOLOGY/SECURITY SHEET FOR ADDITIONAL INFORMATION.</div></div></div></div><div><div>ONE-LINE DIAGRAM</div><div><div></div><div>TRANSFORMER, TYPE AND RATINGS AS NOTED</div></div><div><div></div><div>SWITCH, RATINGS AS SHOWN</div></div><div><div></div><div>FUSE, RATINGS AS SHOWN</div></div><div><div></div><div>SHUNT TRIP</div></div><div><div></div><div>GROUND FAULT PROTECTION</div></div><div><div></div><div>KIRK-KEY INTERLOCK</div></div><div><div></div><div>DIGITAL METER OR SUB-METER INTEGRATED INTO EQUIPMENT</div></div><div><div></div><div>CURRENT TRANSFORMER, RATED AS SHOWN</div></div><div><div></div><div>GROUND CONNECTION</div></div><div><div></div><div>AUTOMATIC TRANSFER SWITCH</div></div><div><div></div><div>BUS DUCT PLUG</div></div><div><div></div><div>ELECTRICAL UTILITY REVENUE METER</div></div><div><div></div><div>SURGE PROTECTION DEVICE</div></div><div><div></div><div>GENERATOR ANNUNCIATOR PANEL</div></div><div><div></div><div>CIRCUIT BREAKER</div></div><div><div></div><div>DRAW-OUT CIRCUIT BREAKER</div></div></div><div><div>MISCELLANEOUS</div><div><div></div><div>SHADED SYMBOLS INDICATE EXISTING DEVICES TO REMAIN, UNLESS OTHERWISE NOTED.</div></div><div><div></div><div>INDICATES WALL-MOUNTED WHEN ATTACHED TO ANY SYMBOL</div></div><div><div></div><div>DRAWING NOTE REFERENCE</div></div><div><div></div><div>AREA OF RESCUE ASSISTANCE</div></div></div><div><div>FIRE ALARM</div><div><div></div><div>WATER FLOW SWITCH</div></div><div><div></div><div>SUPERVISORY SWITCH</div></div><div><div></div><div>SMOKE DETECTOR - MULTI CRITERIA DETECTOR</div></div><div><div></div><div>SMOKE DETECTOR - "SB" INDICATES IN INTEGRAL SOUNDER BASE "D" INDICATES DUCT TYPE "R" INDICATES 120 VOLT RESIDENTIAL TYPE</div></div><div><div></div><div>HEAT DETECTOR</div></div><div><div></div><div>BEAM DETECTOR TRANSMITTER, HIGH IN CEILING WALL DIRECT LINE OF SIGHT.</div></div><div><div></div><div>BEAM DETECTOR RECEIVER, HIGH IN CEILING WALL DIRECT LINE OF SIGHT.</div></div><div><div></div><div>FIRE ALARM SPEAKER STROBE / CEILING MOUNTED</div></div><div><div></div><div>FIRE ALARM SPEAKER / CEILING MOUNT.</div></div><div><div></div><div>MAGNETIC DOOR HOLDER</div></div><div><div></div><div>AUXILIARY CONTROL RELAY</div></div><div><div></div><div>FIRE FIGHTER HANDSET</div></div><div><div></div><div>FIRE ALARM PULL STATION +42" AFF</div></div><div><div></div><div>FIREMAN'S TELEPHONE JACK +42" AFF</div></div><div><div></div><div>AUDIO VISUAL FIRE ALARM HORN STROBE +80" AFF- 1575cd U.N.O.</div></div><div><div></div><div>VISUAL FIRE ALARM (STROBE) CEILING MOUNT - 1575cd U.N.O.</div></div><div><div></div><div>AUDIO FIRE ALARM HORN +80" AFF</div></div><div><div></div><div>FIRE ALARM CONTROL PANEL</div></div><div><div></div><div>REMOTE FIRE ALARM ANNUNCIATOR PANEL</div></div><div><div></div><div>REMOTE POWER SUPPLY FOR AUDIO/VISUAL FIRE ALARM DEVICES.</div></div><div><div></div><div>FIRE SMOKE DAMPER</div></div><div><div></div><div>REMOTE LED INDICATOR LIGHT</div></div></div><div><div>SECURITY</div><div><div></div><div>ADA AUTO DOOR OPEN BUTTON</div></div><div><div></div><div>DOOR RELEASE BUTTON</div></div><div><div></div><div>WALL MOUNTED CARD READER</div></div><div><div>REFERENCE TECHNOLOGY/SECURITY SHEET FOR ADDITIONAL INFORMATION.</div></div></div><div><div>SWITCHES AND LIGHTING CONTROL DEVICES</div><div><div>ALL SWITCH TYPES AND SENSORS TYPES FOUND ON 'LIGHTING CONTROL DEVICE SCHEDULE', LOCATED ON ELECTRICAL SCHEDULE SHEETS</div><div><div>SWITCH ANNOTATION AS FOLLOWS:</div><div><div></div><div>TYPE, PER SCHEDULE</div></div><div><div></div><div>NO TYPE INDICATES SINGLE POLE TOGGLE SWITCH</div></div><div><div></div><div>SWITCH LEGS, PER PLAN, SHOWN HERE AS 3 (a,b,c)</div></div></div><div><div>OCCUPANCY SENSOR ANNOTATION, AS FOLLOWS:</div><div><div></div><div>OCCUPANCY /VACANCE SENSOR 'X'</div></div><div><div></div><div>INDICATES TYPE, PER SCHEDULE</div></div><div><div></div><div>CEILING SENSOR</div></div><div><div></div><div>WITH BRACKET INDICATES WALL / CORNER MOUNT</div></div></div><div><div>LIGHT SENSOR ANNOTATION, AS FOLLOWS:</div><div><div></div><div>DIGITAL PHOTOCELL</div></div><div><div></div><div>DAYLIGHT HARVESTING SENSOR</div></div></div><div><div>RELAY PANELS, CONTACTORS, TIME SWITCHES:</div><div><div></div><div>RELAYS/CONTACTORS/TIMERS/DEVICES WHERE "XX" INDICATES:</div></div><div><div></div><div>"LC" LIGHTING CONTRACTOR</div></div><div><div></div><div>"LCP" LIGHTING CONTROL PANEL</div></div><div><div></div><div>"TS" TIME SWITCH</div></div><div><div></div><div>"TC" TIME CLOCK</div></div></div></div><div><div>DRAWING/DETAIL REFERENCE KEY</div><div><div></div></div></div><div><div>PANELBOARD NOMENCLATURE</div><div><div>5 DP C H A 1</div><div><div></div><div>SUB PANEL</div></div><div><div></div><div>AREA</div></div><div><div></div><div>VOLTAGE</div></div><div><div></div><div>K-400Y/277V</div></div><div><div></div><div>L-208Y/120V</div></div><div><div></div><div>BRANCH</div></div><div><div></div><div>NONE NORMAL</div></div><div><div></div><div>LIFE SAFETY</div></div><div><div></div><div>EQUIPMENT</div></div><div><div></div><div>CRITICAL</div></div><div><div></div><div>LEGALLY REQUIRED</div></div><div><div></div><div>OPTIONAL STAND-BY</div></div><div><div></div><div>DISTRIBUTION PANEL (IF APPLICABLE)</div></div><div><div></div><div>LEVEL</div></div></div></div></div></div><div data-bbox="2226 277 2226 487" data-label="Complex-Block"><div>CONSULTANTS</div><div><div>MEP</div><div>DBR, INC.</div><div>9990 Richmond Avenue</div><div>Houston, TX 77042</div><div>Tel: 281.945.8888</div></div><div><div>STRUCTURAL</div><div>CJG Engineers</div><div>6501 North Course Dr., Suite 375</div><div>Houston, TX 77042</div><div>Tel: 713.780.3345</div><div>Fax: 713.780.3712</div></div></div><div data-bbox="2226 497 2226 646" data-label="Image"></div><div data-bbox="2226 657 2226 1232" data-label="Complex-Block"><div>TISD INNOVATION CENTER</div><div>BLDG.4 RENOVATION</div><div>11211 Farm To Market 2920, Tomball, TX 77355</div><div>Tomball ISD</div></div><div data-bbox="2226 1243 2226 1623" data-label="Complex-Block"><div>ARCADIS</div><div>ARCADIS INC.</div><div>1330 Post Oak Boulevard, Suite 2250</div><div>Houston, TX 77056</div><div>tel 281.286.6605, fax 713.977.4620</div><div></div></div><div data-bbox="2226 1633 2226 1717" data-label="Complex-Block"><div>PROJECT #: 202415</div><div>DATE: 2025-03-31</div><div>DRAWN: DBR</div><div>CHECKED: DBR</div><div>DATE: 2025-03-31</div><div>ISSUE: PROPOSAL AND PERMIT</div></div><div data-bbox="2226 1717 2226 1717" data-label="Complex-Block"><div>E0.01</div><div>ELECTRICAL</div><div>SYMBOL</div><div>LEGEND</div></div><div data-bbox="2226 1717 2226 1717" data-label="Complex-Block"><div></div><div>713.914.0888 p</div><div>https://www.dbrinc.com</div><div>TBPE Firm Registration No. 2234</div><div>SS CC/TDD/T/RR JD RT</div></div></div></div>		



FIRE ALARM REMODELING NOTES:

- A. ALL FIRE ALARM CONTRACTORS ARE RESPONSIBLE FOR VISITING THE SITE AND VERIFYING THE EXISTING FIRE ALARM SYSTEM AND SCOPE OF WORK. VERIFYING PER THE PERFORMANCE SPECIFICATIONS, PRIOR TO BIDDING. VISIBLE EXISTING SITE CONDITIONS ARE ASSUMED TO BE KNOWN BY FIRE ALARM CONTRACTOR UPON DESIGN OF FIRE ALARM SHOP DRAWINGS.
- B. THE INTENT OF THIS PLAN IS TO INCORPORATE AN ENTIRELY NEW BUILDING FIRE ALARM SYSTEM AND REMOVE THE EXISTING BUILDING FIRE ALARM SYSTEM.
- C. ALL NOTIFICATION DEVICES SHALL BE ACTIVATED AS REQUIRED BY APPLICABLE CODE WHEN FIRE ALARM SYSTEM IS INITIATED.
- D. THE EQUIPMENT SUPPLIER AND INSTALLING CONTRACTOR SHALL BE LICENSED BY THE STATE FIRE MARSHALL TO SELL, INSTALL, AND SERVICE FIRE ALARM SYSTEMS AS REQUIRED BY LOCAL CODES AND INSURANCE CODE.
- E. ANY DEVICE THAT SUFFERS MALFUNCTION DURING RENOVATION SHALL BE REPLACED AT NO COST TO OWNER. CONTRACTOR SHALL TAKE PROPER STEPS TO ENSURE DUST AND DEBRIS DOES NOT NEGATIVELY INTERFERE WITH OPERATION OF ANY EXISTING EQUIPMENT LEFT OPERATIONAL DURING RENOVATION.

GENERAL LIGHTING DEMOLITION NOTES:

- A. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRESENT ON SITE PRIOR TO BIDDING, AND SHALL BE EXPECTED TO PERFORM DEMOLITION AND INSTALL NEW AS SHOWN ON THE DOCUMENTS, INCLUDING SCOPE THAT MAY NOT FEASIBLY BE INDICATED ON PLAN.
- B. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL EXISTING ELECTRICAL DEVICES ON EXISTING CEILING, ALL ABANDONED DEVICES IN CEILING WITHIN SCOPE OF WORK SHALL BE REMOVED.
- C. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL TO ALL REMOVED MATERIALS. CONTRACTOR SHALL COORDINATE WITH OWNER FOR LOCATION TO RETURN ANY AND ALL MATERIAL FOR OWNER STORAGE. FAILURE TO TURN OVER REMOVED MATERIAL TO OWNER MAY REQUIRE CONTRACTOR TO REPLACE EQUIPMENT REMOVED WITH NEW.
- D. REMOVE ALL ELECTRICAL DEVICES WITHIN DEMOLISHED WALLS INCLUDING SWITCHES AND FIRE ALARM DEVICES. REFER TO ARCHITECTURAL DEMO PLAN. THIS SCOPE MAY NOT BE DIRECTLY IMPLIED BY NOTES ON DEMO PLANS AS IT IS ASSUMED THIS SCOPE EXISTS BASED ON ARCHITECTURAL DEMOLITION PLANS.
- E. CONTRACTOR SHALL REVIEW DEMO AND NEW WORK PLANS SIMULTANEOUSLY TO IDENTIFY SCOPE THAT IS TO BE MODIFIED FOR REUSE WITH NEW SCOPE.
- F. ALL FIXTURES REMOVED AND REINSTALLED SHALL BE CLEANED, RELAMPED AS REQUIRED AND TOUCHED UP WITH PAINT. ALL DAMAGED PARTS MUST BE REPLACED. THE FIXTURES SHALL THEN BE REINSTALLED AS REQUIRED. PROVIDE NEW DRIVERS AS REQUIRED. ALL EXISTING SWITCHING ZONES SHALL REMAIN UNCHANGED UNLESS DIRECTED OTHER ON PLANS.
- G. ALL LIGHTING CIRCUITS SHALL BE DEMOLISHED AS REQUIRED BY THE DEMOLITION SCOPE ON THE DOCUMENTS. REPAIR ANY CIRCUITS THAT ARE PARTIALLY DEMOLISHED AND CONTAIN OUTLETS THAT ARE NOT IN SCOPE OR OUTSIDE OF THE LIMITS OF CONSTRUCTION TO WORKING CONDITION. PROVIDE ADDITIONAL CONDUIT, WIRE AND BOXES AS NEEDED.
- H. MODIFIED LIGHTING CIRCUITS SHALL NOT EXCEED 50% CIRCUIT LOAD BASED ON CIRCUIT AMPACITY.

GENERAL POWER DEMOLITION NOTES:

- A. EXISTING CIRCUIT BREAKERS VACATED DUE TO REMODELING WORK SHALL REMAIN AS SPARE BREAKERS AND LEFT IN THE OFF POSITION.
- B. WHERE INDICATED OR REQUIRED BY OTHER TRADES, CONTRACTOR SHALL REMOVE ALL ELECTRICAL DEVICES AND EQUIPMENT TO EXISTING PREWIRED FURNITURE. REMOVE CONDUIT AND WIRING BACK TO LAST ACTIVE JUNCTION. ALL DATA CABLING SHALL BE REMOVED.
- C. CONTRACTOR SHALL REPORT ANY DAMAGED DEVICES THAT ARE SHOWN AS EXISTING TO REMAIN. ALL DEVICES FOUND TO BE DAMAGED AT THE TIME OF SUBSTANTIAL COMPLETION THAT NOT REPORTED PRIOR TO STARTING WORK SHALL BE REPLACED AT THE CONTRACTOR'S COST.
- D. DEMOLISHED POKE-THRU'S SHALL BE DISCONNECTED FROM EXISTING BRANCH CIRCUIT, DATA AND/OR AV CONDUCTORS, CAP WITH A UL LISTED FIRE RATED POKE-THRU COVER.
- E. EXISTING RECEPTACLE OR MECHANICAL CIRCUITS MODIFIED IN FIELD SHALL NOT EXCEED 80% CAPACITY BASED ON AMP-RATING OF CIRCUIT.

FIRE ALARM GENERAL NOTES:

- A. CONTRACTOR SHALL SUBMIT LICENSED SEALED FIRE ALARM DRAWINGS TO THE AHJ/PERMIT OFFICE FOR PLAN REVIEW BY MEANS OF DEFERRED SUBMITTAL.
- B. ALL CEILING MOUNTED DEVICES SHALL BE CENTERED IN THE CEILING TILE.
- C. ALL FIRE ALARM VISUAL AND AUDIO/VISUAL DEVICES SHALL BE CONFIGURED TO PROVIDE CANDELA RATINGS IN ACCORDANCE WITH AIA & NFPA COVERAGES.
- D. CONTRACTOR SHALL PROVIDE 120V DEDICATED 20A BRANCH CIRCUIT WITH LOCK-ON BREAKER PROVISIONS TO EACH SPEAKER AMPLIFIER AND VISUAL DEVICE POWER SUPPLIES AS REQUIRED BY FIRE ALARM SHOP DRAWINGS. CONNECT TO EMERGENCY POWER WHEN AVAILABLE.
- E. ALL WIRING FOR DEVICES IN EXPOSED STRUCTURE AREAS SHALL BE ROUTED WITHIN CONDUIT. EXPOSED ROUTING SHALL BE AVOIDED. EXPOSED CONDUIT SHALL BE ROUTED PERPENDICULAR, PARALLEL, AND RIGHT TO COLUMNS AND BEAMS. ALL EXPOSED CONDUIT ROUTING SHALL BE COORDINATED WITH ARCHITECT AND ENGINEER PRIOR TO INSTALLATION.
- F. CONTRACTOR SHALL PROVIDE CONDUIT PATHWAYS FOR FIRE ALARM PLENUM CONDUCTORS WHERE ROUTED ABOVE HARD CEILING AREAS. CONDUIT RACEWAYS SHALL ALLOW ACCESS TO CONDUIT AT EACH END IN ACCESSIBLE LOCATIONS ABOVE CEILING.
- G. LOCATE NEW SMOKE DETECTORS IN THE PATH OF EGRESS, ELECTRICAL, MECHANICAL, IDF ROOMS, STORAGE ROOMS AND OTHER LOCATIONS IN CHILDREN AREAS.
- H. DUCT MOUNTED SMOKE DETECTORS SERVING HVAC UNITS WITH 2000 CFM OR GREATER SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION IN RETURN AIR DUCT INSIDE THE BUILDING THE UNIT SERVES. IT IS NOT ACCEPTABLE TO INSTALL DUCT MOUNTED SMOKE DETECTORS AT THE HVAC UNIT ON THE ROOF OR EXTERIOR OF THE BUILDING.
- I. LOCATE HEAT DETECTORS IN BREAKROOM AREAS.
- J. PROVIDE NEW AUDIO & VISUAL DEVICES PER APPLICABLE CODE.

GENERAL SITE PLAN NOTES:

- A. CONTRACTOR SHALL INSTALL ALL RACEWAYS, DUCTBANKS, CONCRETE PADS ETC. REQUIRED BY THE UTILITY COMPANY. OBTAIN WRITTEN INSTRUCTIONS FROM THE UTILITY COMPANY BEFORE ROUGH-IN.
- B. CONTRACTOR SHALL BORE UNDERNEATH EXISTING PAVEMENT WHERE CONDUITS ARE ROUTED UNDER EXISTING PAVING. SAW CUTTING IS NOT PERMITTED WITHOUT OWNER PERMISSION PRIOR TO BEGINNING WORK.
- C. CONDUIT SHALL BE PERMITTED TO BE ROUTED EXPOSED/SURFACE MOUNTED IN MECHANICAL YARDS. EXPOSED CONDUITS SHALL RUN PERPENDICULAR OR PARALLEL TO THE WALLS, BEAMS, ETC. ROUTING SHALL BE COORDINATED WITH OWNER PRIOR TO ROUGH-IN.
- D. CONTRACTOR SHALL SAW CUT EXISTING CONCRETE SLABS WHEN REQUIRED TO INSTALL NEW RACEWAYS. COORDINATE PROPOSED ROUTING WITH ARCHITECT PRIOR TO SAW CUTTING. CONTRACTOR SHALL PATCH TO MATCH EXISTING CONDITIONS. PERFORM X-RAY SCAN ON ANY POST TENSION SLAB PRIOR TO COMMENCING CUTTING.
- E. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS WHEN EXCAVATING TO AVOID DAMAGE TO EXISTING POWER, COMMUNICATIONS, WATER, SANITARY/SEWER, AND/OR GAS LINES THAT MAY BE BURIED IN AREAS OF NEW CONSTRUCTION OR WHEN TRENCHING FOR NEW FEEDERS AND BRANCHES IS REQUIRED. COORDINATE WITH CIVIL PLANS FOR ADDITIONAL INFORMATION.
- F. COORDINATE EQUIPMENT LOCATIONS WITH ARCHITECTURAL AND CIVIL PLANS FOR EXACT EQUIPMENT LOCATION BEFORE INSTALLATION. EQUIPMENT LOCATIONS SHOWN ARE APPROXIMATE.
- G. THE CONTRACTOR SHALL PROVIDE AND INSTALL PULL STRINGS TO ALL SPARE OR UNUSED UNDERGROUND CONDUITS.
- H. CONTRACTOR SHALL PROVIDE CONDUIT AS REQUIRED BY DIVISION 27/28. COORDINATE WITH DIVISION 27/28 SYSTEM PROVIDER FOR EXACT SIZE AND QUANTITY OF CONDUITS REQUIRED.
- I. PROVIDE FLUSH WITH GRADE TRAFFIC-RATED CONCRETE PULL-BOXES AS REQUIRED EVERY 250' MAXIMUM FOR ALL BELOW GRADE CONDUIT RUNS SHOWN. LOW VOLTAGE AND LINE VOLTAGE CABLING SHALL NOT BE RUN THROUGH THE SAME PULL BOX.
- J. UNDER GROUND BRANCH CIRCUITS CONDUITS SHALL BE A MINIMUM SIZE OF 1 INCH USING #10 AWG CONDUCTORS UNLESS OTHERWISE NOTED.
- K. ALL UNDERGROUND FEEDERS AND BRANCH CIRCUIT SHALL BE PROVIDED WITH PULLBOXES AS REQUIRED BY NEC.
- L. ALL PULL BOXES SHALL BE INSTALLED FLUSH WITH FINISHED GRADE. REFER TO CIVIL PLANS FOR FINAL GRADE ELEVATION.

GENERAL ELECTRICAL DEMOLITION NOTES:

- A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED THE EXISTING JOB SITE CONDITIONS DURING THE BIDDING PERIOD TO OBTAIN THE SCOPE OF ELECTRICAL WORK INVOLVED AS A RESULT OF THE ARCHITECTURAL MODIFICATIONS TO THE EXISTING CONDITIONS. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND OUTLETS, CONSISTING OF FIXTURES, DEVICES, EQUIPMENT OR APPARATUS, WHICH MUST BE REROUTED, RELOCATED OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE PROVIDED SO THAT THE REMODELING WORK MAY BE ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS.
- B. CONTRACTOR SHALL REVIEW DEMOLITION AND NEW WORK PLANS SIMULTANEOUSLY TO IDENTIFY SCOPE THAT IS TO BE MODIFIED FOR REUSE WITH NEW SCOPE.
- C. CONTRACTOR SHALL VERIFY AND DOCUMENT EXISTING CONDITIONS OF ALL OUTLETS THAT ARE INDICATED OR REQUIRED TO BE REMOVED AND REINSTALLED TO FACILITATE THE WORK REQUIRED BY ALL TRADES. THE CONTRACTOR SHALL REPLACE NON-OPERABLE DEVICES AT NO ADDITIONAL COST TO THE OWNER. DOCUMENT OUTLETS IN NON-WORKING CONDITION PRIOR TO REMOVAL AND NOTIFY THE OWNER.
- D. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL TO ALL REMOVED MATERIALS. CONTRACTOR SHALL COORDINATE WITH OWNER FOR LOCATION TO RETURN ANY AND ALL MATERIAL FOR OWNER STORAGE. FAILURE TO TURN OVER REMOVED MATERIAL TO OWNER MAY REQUIRE CONTRACTOR TO REPLACE EQUIPMENT REMOVED WITH NEW.
- E. REMOVE ALL ELECTRICAL DEVICES WITHIN DEMOLISHED WALLS INCLUDING RECEPTACLES, DATA/TELEPHONE DROPS, PIA DEVICES, CONDUIT, AND WIRING. ALL EXISTING DEVICES MAY NOT BE DOCUMENTED ON PLANS. REFER TO ARCHITECTURAL DEMOLITION PLANS FOR DEMOLISHED WALLS. REMOVE CONDUIT AND WIRING BACK TO PANEL OR LAST ACTIVE JUNCTION BOX.
- F. ALL ABANDONED CONDUIT AND BOXES FOUND IN CRAWL SPACES, CEILING SPACES, CHASES, OR UTILITY SPACES SHALL BE REMOVED. EXISTING UNDERGROUND CONDUIT MAY BE ABANDONED. CAP ABANDONED UNDERGROUND CONDUIT FLUSH WITH GRADE.
- G. OWNER SHALL RESERVE THE RIGHT TO CLAIM ALL EQUIPMENT AND CABLING REMOVED DURING DEMOLITION.
- H. RE-ESTABLISH SERVICE TO ALL OUTLETS THAT MAY BE INTERRUPTED DUE TO REMODELING WORK.
- I. PROVIDE ALL APPURTENANCES REQUIRED TO REROUTE, RELOCATE, REMOVE OR REINSTALL ALL ITEMS REQUIRED BY SCOPE OF REMODEL.
- J. ALL ABANDONED MATERIAL SHALL BE REMOVED FROM JOBSITE PRIOR TO PROJECT COMPLETION.
- K. IDENTIFICATION AND LABELING SHALL BE PROVIDED IN ACCORDANCE WITH SPECIFICATIONS.
- L. CIRCUIT NUMBERS ARE FOR PLAN REFERENCE ONLY. CONTRACTOR SHALL RELABEL ALL CIRCUIT DIRECTORIES WITH LOAD NAMES FOR ALL EXISTING AND NEW PANELS THAT WERE MODIFIED WITHIN THIS PROJECT.

LIGHTING GENERAL NOTES:

- A. ALL LIGHTING CONTROLS SHALL BE PROVIDED IN ACCORDANCE WITH PERFORMANCE DESCRIPTION INDICATED IN THE LIGHTING CONTROL DEVICE SCHEDULE FOUND ON SCHEDULE SHEETS.
- B. MULTIPLE SWITCHES SHOWN TOGETHER SHALL BE GANGED UNDER A COMMON COVER PLATE.
- C. PROVIDE LABELING OF ALL CONTROL DEVICES, SWITCH PACKS, LIGHT FIXTURES, JUNCTION BOXES, ETC. IN ACCORDANCE WITH SPECIFICATIONS.
- D. LIGHTING FIXTURE LOCATIONS SHOWN TAKE PRECEDENCE IN CEILING LOCATION TO ALL OTHER TRADES. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING OTHER TRADES DO NOT IMPACT SPACING AND/OR OVERLAPMENT OF OTHER DEVICES WHERE LIGHT FIXTURES ARE INSTALLED.
- E. REFERENCE SYMBOLS LEGEND FOR LIGHT SWITCH AND LIGHTING CONTROL DEVICE NOMENCLATURE AND SWITCH-LEG ANNOTATION OR LABELING.
- F. ALL 2X2, 2X4 FIXTURES INSTALLED IN SUSPENDED GRID CEILING SHALL BE PROVIDED WITH (4) SECONDARY SUPPORT WIRES ANCHORED DIRECTLY TO STRUCTURE.

EMER. LIGHTING GENERAL NOTES:

- A. PROVIDE ALL EMERGENCY LIGHT FIXTURES WITH UNSWITCHED HOT LEG AS INDICATED IN NEC 700.12 AND PROVIDE LOCK-ON DEVICE AS REQUIRED BY NEC 700.
- B. ROUTE AN UNSWITCHED HOT LEG TO ALL LIGHT FIXTURES DESIGNATED AS EMERGENCY FIXTURES. HOT LEG SHALL ORIGINATE FROM CIRCUIT SERVING NORMAL LIGHTING FIXTURES IN THAT SPACE. UNSWITCHED HOT LEGS SHALL CONNECT TO THE NORMAL POWER SENSING LUG ON THE EMERGENCY BATTERY PACK.
- C. PROVIDE UN-SWITCHED CIRCUIT TO ALL EXIT SIGNS. CONNECT TO DEDICATED CIRCUIT INDICATED AND PROVIDE LOCK-ON DEVICE AS REQUIRED BY NEC 700.

GENERAL ELECTRICAL NOTES:

- A. ELECTRICAL DEVICE LOCATIONS SHOWN ARE NOT EXACT. ALL DEVICE LOCATIONS SHALL BE VERIFIED WITH ARCHITECTURAL MILLWORK, CASEWORK, AND GENERAL ELEVATION VIEWS.
- B. ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT, OUTLET BOXES, JUNCTION BOXES FOR ALL TECHNOLOGY, LOW VOLTAGE, ACCESS CONTROL, SECURITY, SURVEILLANCE, AND OTHER DIVISION 27/28 SCOPE. REFER TO DIVISION 27/28 DRAWINGS AND SPECIFICATIONS FOR ALL WORK REQUIRED. OMISSION OF THIS SCOPE FROM DIV 28 SCOPE OF WORK IS PROHIBITED.
- C. HVAC AND PLUMBING EQUIPMENT LOCATIONS ARE NOT EXACT, AND THE EXACT POINT OF CONNECTION TO EQUIPMENT MAY VARY. COORDINATE EXACT ROUGH-IN REQUIREMENTS IN FIELD AND WITH FINAL SUBMITTALS.
- D. PROVIDE LABELING OF ALL DEVICES, CONDUIT, PANELS, AND JUNCTION BOXES WITH TYPE-WRITTEN LABEL IDENTIFYING CIRCUIT ON THE BACK OF DEVICE COVER PLATES AND ON COVER OF JUNCTION BOXES IN ACCORDANCE WITH ELECTRICAL SPECIFICATIONS.
- E. ROOF PENETRATIONS SHALL BE MINIMIZED. WHERE ABLE, ROUTE ALL CONDUIT FOR ROOF MOUNTED EQUIPMENT THROUGH ROOF CURB. CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATING NECESSARY WATER PROOFING AROUND ROOF PENETRATIONS WITH ROOFING INSTALLER.
- F. ALL RECEPTACLES LOCATED IN RESTROOMS, JANITOR CLOSETS, MECHANICAL ROOMS, ELEVATOR PITTS OR SHAFTS, ELEVATOR EQUIPMENT ROOMS, SERVING ELECTRIC DRINKING FOUNTAINS OR VENDING MACHINES, LOCATED WITHIN 6' OF A SINK, LOCATED ABOVE A WET COUNTERTOP OR IN A KITCHEN OR COFFEE BAR SHALL BE GFCI. FEED-THRU GFCI'S IS PROHIBITED. ALL GROUPED DEVICES SHALL BE PROVIDED WITH INDIVIDUAL TEST/RESET FEATURES. ALL GFCI RECEPTACLES SHALL BE ACCESSIBLE. PROVIDE SEPARATE RECEPTACLE PROTECTED BY "FACELESS GFCI" REQUIRED TO COMPLY WITH CURRENTLY ADOPTED NEC.
- G. WHERE MULTI-WIRE HOMERUNS ARE INSTALLED, GROUP HOMERUNS WITH THREE HOTS (A, B, AND C PHASE), AND #10 NEUTRAL TO PROVIDE MULTI-WIRE BRANCH CIRCUITS. NO MORE THAN 2 MULTI-WIRE HOMERUNS PER CONDUIT. CONTRACTOR IS REQUIRED TO FURNISH CALCULATIONS PROVING CONDUCTOR DE-RATING HAS BEEN INCORPORATED, INCLUDING CONDUIT FILL PERCENTAGE AND MULTI-CONDUCTOR DE-RATING FOR MULTI-WIRE CIRCUITS. THE NEUTRAL IS CONSIDERED A CURRENT CARRYING CONDUCTOR FOR ALL PHASE CONFIGURATIONS. MULTI-WIRE BRANCH CIRCUITS SHARING A COMMON NEUTRAL SHALL BE PROVIDED WITH GROUPED BREAKER HANDLE TIES PER NEC ARTICLE 210.4.B.240.15(B).
- H. ALL RECEPTACLES SHALL BE TAMPER RESISTANT TYPE EXCEPT IN MD/ID/F CLOSETS.
- I. CONTRACTOR SHALL PROVIDE PLENUM RATED MATERIAL FOR ALL INFRASTRUCTURE LOCATED IN PLENUMS NOT PROTECTED BY CONDUIT OR ANOTHER APPROVED LISTED FIRE ENCLOSURE.
- J. NEW ELECTRICAL EQUIPMENT LOCATED IN ELECTRICAL ROOMS SHALL BE ARRANGED TO COMPLY WITH LATEST NEC ARTICLE 110.
- K. ELECTRICAL AND TECHNOLOGY OUTLETS SHOWN IN SOUND RATED PARTITIONS SHALL NOT BE PLACED BACK-TO-BACK. OFFSET AT LEAST ONE STUD AND SEAL FOR SOUND AS REQUIRED.
- L. ALL RECEPTACLES SHALL BE TAMPER RESISTANT TYPE EXCEPT IN MD/ID/F CLOSETS. CONTRACTOR MAY PROVIDE NON-TAMPER RESISTANT RECEPTACLES WHERE NOT REQUIRED PER CURRENT NEC ARTICLE 406.

NOTE TO THE CONTRACTORS:

GENERAL NOTES APPLY TO ALL SHEETS/DRAWINGS AS APPLICABLE.

CONTRACTOR SHALL PROVIDE A COMPLETE INTELLIGENT, MICROPROCESSOR CONTROLLED FIRE ALARM SYSTEM AS SPECIFIED PER THE PERFORMANCE BASED DIVISION 28 SPECIFICATIONS. THE SYSTEM SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL CONTROL EQUIPMENT, POWER SUPPLIES, SIGNAL INITIATING AND SIGNALING DEVICES, CONDUIT, WIRE, FITTINGS, AND ALL OTHER ACCESSORIES REQUIRED TO PROVIDE A COMPLETE AND OPERABLE SYSTEM. THE NEW BUILDING FIRE ALARM SYSTEM SHALL COMPLY WITH NFPA 72 (MOST RECENT) AND ALL ASSOCIATED CODES.

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TISD INNOVATION CENTER  
BLDG.4 RENOVATION

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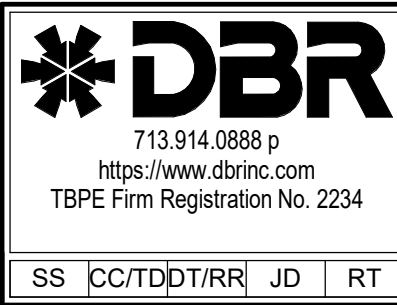


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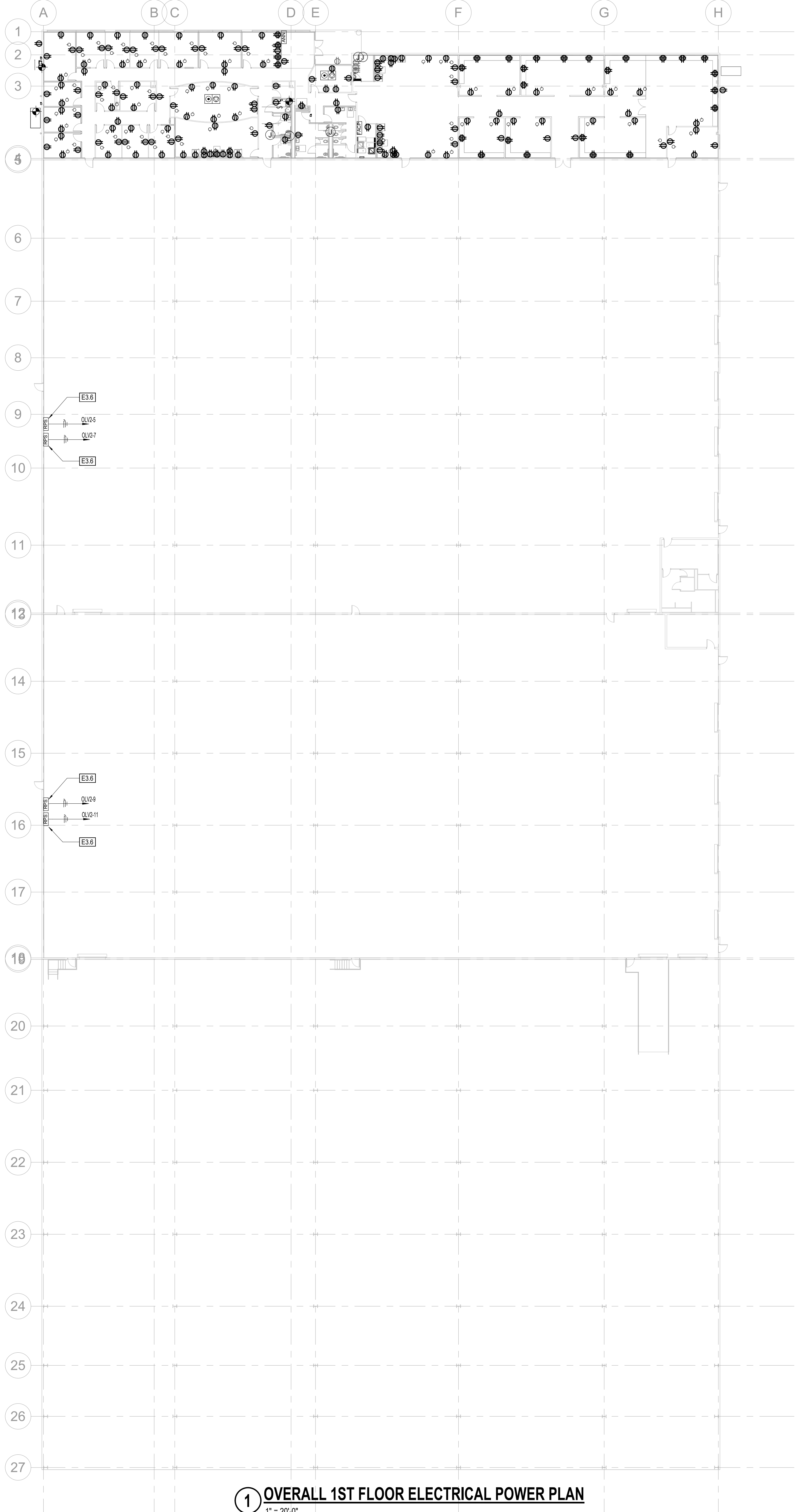
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E0.11

ELECTRICAL  
GENERAL  
NOTES







GENERAL ELECTRICAL NOTES

A. REFER TO ELECTRICAL GENERAL NOTES SHEET E0.11 FOR ADDITIONAL INFORMATION (TYPICAL).

ELECTRICAL KEYED NOTES

E3.6 PROPOSED LOCATION FOR NEW FIRE ALARM REMOTE POWER SUPPLY (RPS). PROVIDE POWER FOR RPS. PROVIDE (2) 1" CONDUITS WITH PULL STRINGS BACK TO FAC. COORDINATE FINAL LOCATION AND EXACT REQUIREMENTS WITH FIRE ALARM CONTRACTOR AND FIRE ALARM SHOP DRAWINGS PRIOR TO ROUGH-IN.

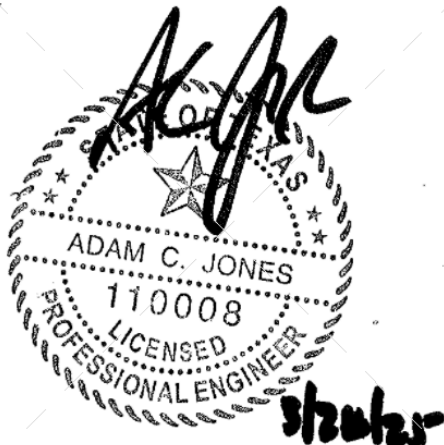
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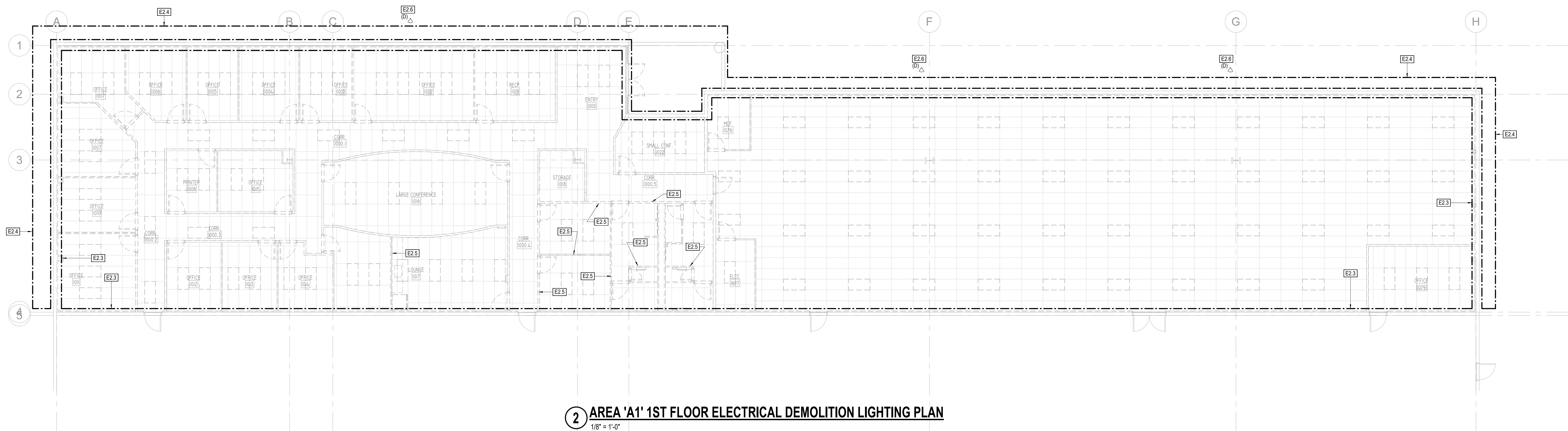
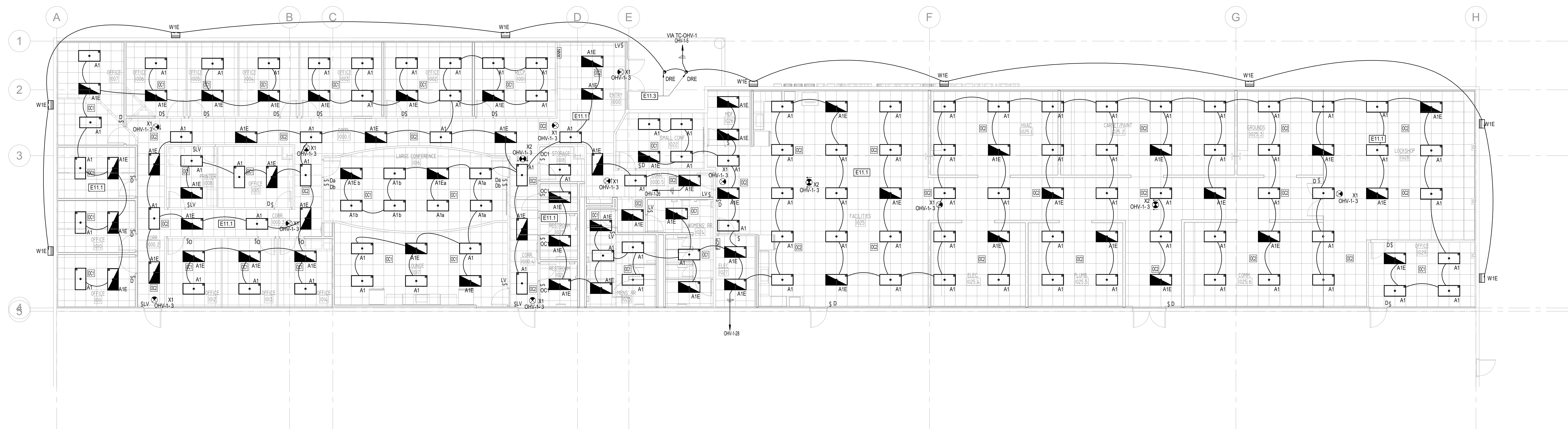
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E0.12  
ELECTRICAL  
PLAN - OVERALL

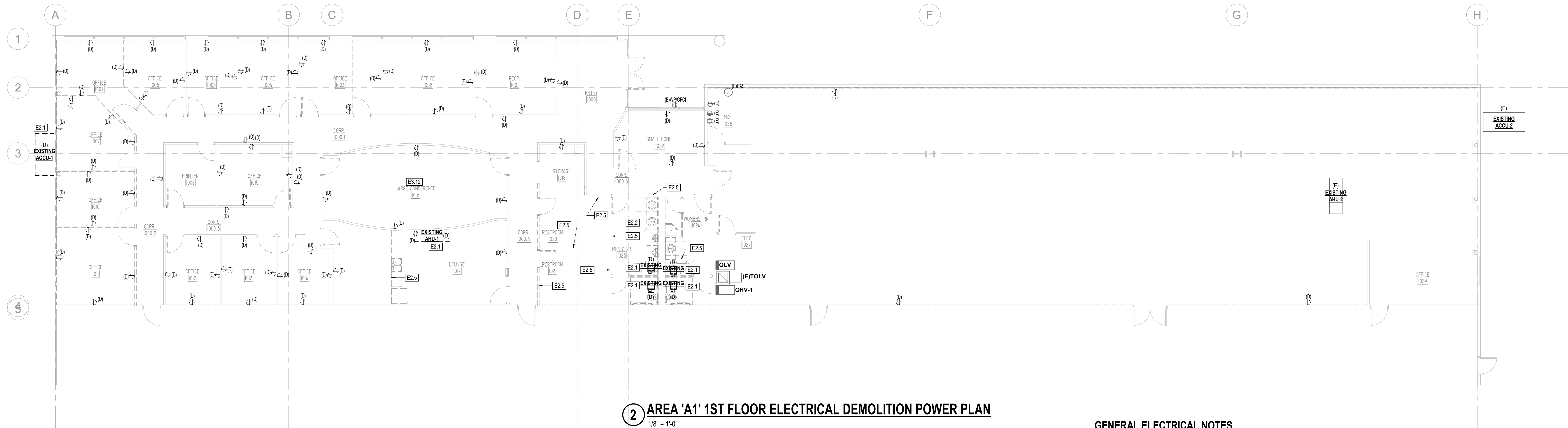
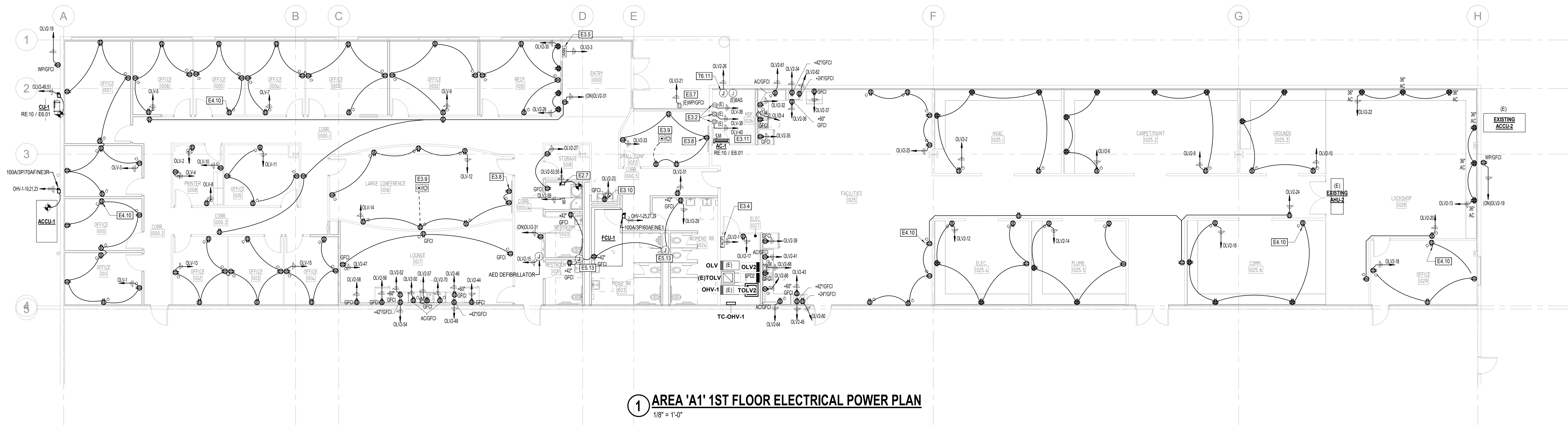
1 OVERALL 1ST FLOOR ELECTRICAL POWER PLAN  
1" = 20'-0"





AREA 'A1' 1ST  
FLOOR  
ELECTRICAL  
LIGHTING PLAN

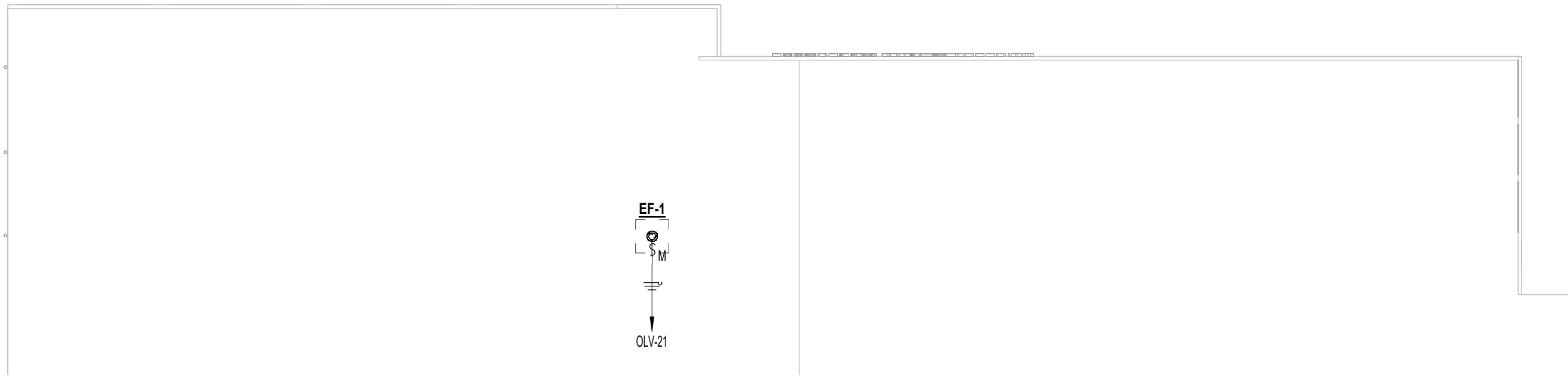




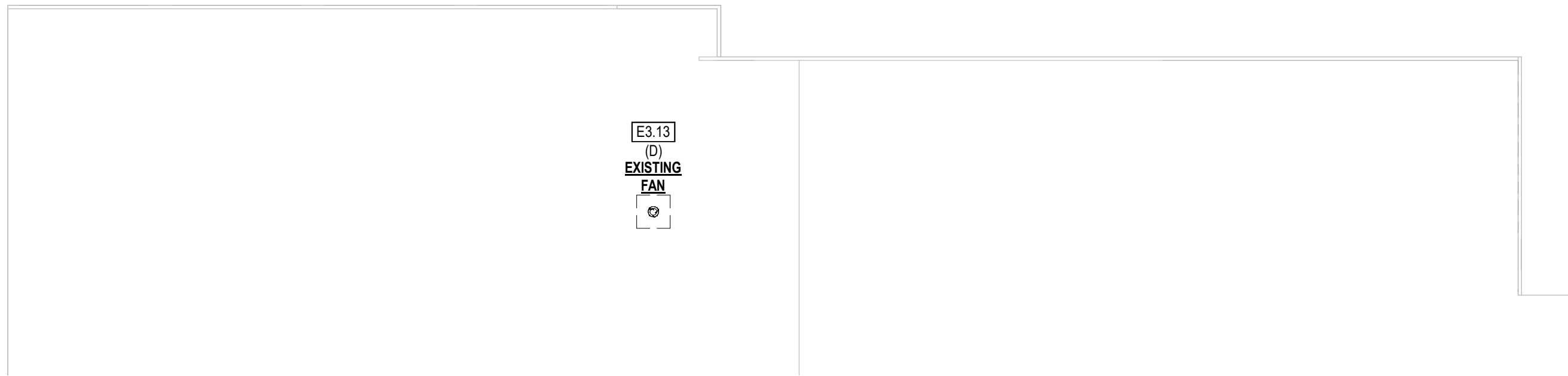
# E2.11

AREA 'A1' 1ST  
FLOOR  
ELECTRICAL  
POWER PLAN





1 ELECTRICAL ROOF PLAN  
1" = 20'-0"



2 ELECTRICAL DEMOLITION ROOF PLAN  
1" = 20'-0"

**GENERAL ELECTRICAL NOTES**

A. REFER TO ELECTRICAL GENERAL NOTES SHEET E0.11 FOR ADDITIONAL INFORMATION (TYPICAL).

**ELECTRICAL KEYED NOTES**

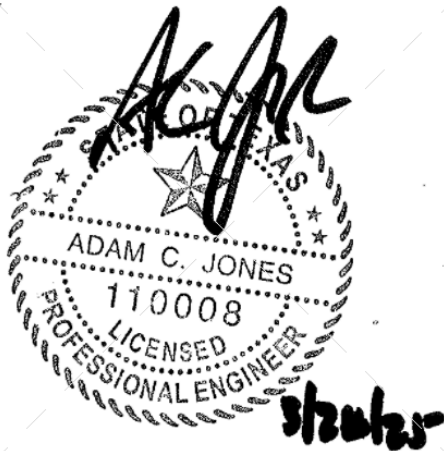
E3.13 DEMOLISH ROOF-MOUNTED MECHANICAL UNIT. DISCONNECT, REMOVE, AND DISPOSE OF ALL ASSOCIATED ELECTRICAL CONNECTIONS AND CONDUIT/WIRE. PROVIDE NEW BRANCH CIRCUITS TO NEW ROOF-MOUNTED MECHANICAL UNITS, WHERE UNIT IS BEING REPLACED AND VOLTAGE/PHASE/CIRCUIT BREAKER AMPACITY OF EXISTING MATCHES NEW. CONTRACTOR MAY RE-USE EXISTING CIRCUIT NUMBER IN LIEU OF NEW CIRCUIT NUMBER SHOWN ON NEW ELECTRICAL ROOF PLAN. FIELD VERIFY AVAILABILITY OF SPARE CIRCUIT BREAKERS IN PANEL. COORDINATE WITH MECHANICAL CONTRACTOR PRIOR TO WORK.

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**E2.31**  
ELECTRICAL  
ROOF PLAN





# Panelboard OLVP

10000 A Air Rating  
New  
Existing  
Mounting Site:  
SURFACE

Panelboard OLVP															
120/208 Vwye Wolt 3 Phase, 4 Wire				Main: Type:		150 A MCB 250 A BUS (Copper)		LUGS: --		X Existing New Mounting Site: SURFACE					
1 Section				MCB											
Type I - Normal Rating															
NOM	LOAD (VA)	TYPE	DESCRIPTION	WIRE	CB	CKT	CB	WIRE	DESCRIPTION	TYPE	LOAD (VA)				
1440 VA	R	OFFICE RECEPTACLES	12	20 A	1	20 A	12	RECP - PRINTER ROOM	R	180 VA					
1440 VA	R	OFFICE RECEPTACLES	12	20 A	3	40 A	12	EXISTING LOAD	R	180 VA					
1440 VA	R	OFFICE RECEPTACLES	12	20 A	5	60 A	12	COPICOPY	R	360 VA					
1440 VA	R	OFFICE R	12	20 A	7	80 A	12	RECP - PRINTER ROOM	R	180 VA					
1440 VA	R	OFFICE R	12	20 A	9	100 A	12	RECP - PRINTER ROOM	R	180 VA					
720 VA	R	OFFICE R	12	20 A	11	120 A	12	RCPTS CONFERENCE	R	720 VA					
1440 VA	R	OFFICE R	12	20 A	13	140 A	12	RCPTS CONFERENCE	R	1260 VA					
720 VA	R	OFFICE R	12	20 A	15	160 A	12	EXISTING LOAD	--	100 VA					
100 VA	--	EXISTING LOAD	12	20 A	17	180 A	12	EXISTING LOAD	--	100 VA					
100 VA	--	EXISTING LOAD	12	20 A	19	200 A	12	EXISTING LOAD	--	100 VA					
500 VA	F	EF-1	12	20 A	21	220 A	12	EXISTING LOAD	--	100 VA					
100 VA	--	EXISTING LOAD	12	20 A	23	240 A	12	EXISTING LOAD	--	100 VA					
100 VA	--	EXISTING LOAD	12	20 A	25	260 A	12	EXISTING LOAD	--	100 VA					
100 VA	--	EXISTING LOAD	12	20 A	27	280 A	12	EXISTING LOAD	--	100 VA					
100 VA	--	EXISTING LOAD	12	20 A	29	300 A	12	EXISTING LOAD	--	100 VA					
100 VA	--	EXISTING LOAD	12	20 A	31	320 A	12	EXISTING LOAD	--	100 VA					
0 VA	--	SPARE	10	30 A	33	340 A	12	EXISTING LOAD	--	100 VA					
0 VA	--	Space	12	--	37	380 A	10	(E)JDF ROOM RACK	M	900 VA					
0 VA	--	Space	12	--	39	400 A	10	(E)JDF ROOM RACK	M	1500 VA					
0 VA	--	Space	12	--	41	420 A	12	Space	--	1500 VA					
NEC REF.				Diversity				NEC REF.							
220.47	Load Type	Conn.	Fct.	Diversity	220.47	Load Type	Conn.	Fct.	Diversity	220.47	Load Type				
(R)Receptacle	Kitchen	13680 VA	86.55%	11840 VA	210.20A	(L)Lighting				(L)Ext. Ltg.					
(K)Kitchen				0 VA	620.14	(E)Elevators				(W)Wat. Htr.					
(C)Cooling				0 VA		(M)Trg. Motor				(MT)Lrg. Motor					
(H)Heating				500 VA	220.50	(E)JDF ROOM RACK				(SP)Sub Pnl.					
(F)Fans	500 VA	100.00%		500 VA		(W)Welders									
(M)Misc.	3000 VA	100.00%		3000 VA											
Total Connected Load:				19240 VA	VA =	43 A	Location of Panel: Space 24								
Total Load (Diversified):				17490 VA	VA =	58 A									

### PANEL SCHEDULE GENERAL NOTES

A. ALL CIRCUIT NUMBERS ARE FOR PLAN REFERENCE ONLY. CONTRACTOR SHALL FIELD VERIFY AVAILABILITY OF BREAKERS. CONTRACTOR SHALL UTILIZE EXISTING SPARE BREAKERS.

A. CONTRACTOR SHALL UTILIZE THE MANUFACTURER OF ELECTRICAL EQUIPMENT TO PROVIDE A SHORT CIRCUIT AND ARC FLASH STUDY OF THE ENTIRE ELECTRICAL SYSTEM.

1. CONTRACTOR SHALL SUBMIT FULL STUDY PRIOR TO RELEASE OF ELECTRICAL EQUIPMENT FOR MANUFACTURE TO ENSURE EQUIPMENT COMPLIES WITH ALL STUDIES. STUDIES SHALL BE SECONDARY AND SEALED BY THE ENGINEER.
2. PROVIDE DATA TO ENSURE SHORT CIRCUIT INTERRUPTING RATINGS OF EQUIPMENT IS GREATER THAN FULL CURRENT AVAILABLE AT EQUIPMENT. SERIES RATINGS MAY BE USED EXCEPT FOR SWITCHBOARDS AND DISTRIBUTION PANELS. SWITCHBOARDS AND DISTRIBUTION PANELS SHALL BE INDICATED BY THE ENGINEER. SERIES RATINGS ARE LISTED. EQUIPMENT SHALL BEAR BLUE LABELS INDICATING SERIES RATED EQUIPMENT ON THE EXTERIOR OF EACH ENCLOSURE.
3. ARCH FLASH STUDY SHALL PROVIDE ARCH INCIDENT ENERGY LEVELS, ARCH FLASH PROBABILITY, AND PPE INFORMATION TO BE PRINTED AND APPLIED TO EACH EQUIPMENT IN THE SYSTEM. PROVIDE EQUIPMENT INTERRUPTING DATA AS PART OF STUDY.
4. REFER TO SPECIFICATIONS SECTION 26.05.73.
5. CONTRACTOR SHALL INSTALL FEEDERS BASED ON THE OVERCURRENT DEVICE RATING UNLESS OTHERWISE NOTED. CONTRACTOR SHALL REFER TO THE FEEDER SCHEDULE TO OBTAIN AND INSTALL THE FEEDER RATING.
6. SERVICE EQUIPMENT SHALL BE LEGIBLY MARKED IN THE FIELD WITH THE MAXIMUM AVAILABLE FULL CURRENT AT THE TIME OF INSTALLATION AND CALCULATION. THE LABEL SHALL BE 2" X 3" IN SIZE AND SHALL BE BLUE LETTERING ON A CONTRASTING BACKGROUND. THIS LABEL SHALL BE IN ACCORD WITH THE DATE OF THE CALCULATION.
7. SUBMIT AN INVESTIGATION OF UNDERGROUND FEEDERS, THE ELECTRICAL CONTRACTOR SHALL SUBMIT AN INVESTIGATION OF THE ENGINEER OF RECORD, INDICATING THE EXACT ROUTING PATH FOR ALL UNDERGROUND CONDUIT. INDICATE STUB-UP LOCATIONS, SIZE AND QUANTITY OF CONDUIT. ALL ELECTRICAL PANELS AND EQUIPMENT SHALL BE SHOWN ON

E2.8 GROUND PER GROUNDING ELECTRODE SYSTEM AND BONDING DETAIL AND TRANSFORMER WIRING SCHEMATIC DETAIL ON ELECTRICAL DETAILS SHEET.

E2.9 PROVIDE NEW EXTERNALLY MOUNTED SHARK #ENC5HK100B-60-10 METER TO MONITOR THE ENTIRE PANELBOARD. PROVIDE CURRENT TRANSFORMERS, POTENTIAL TRANSFORMERS, POWER SUPPLY, AND SOFTWARE FOR REMOTE COMMUNICATION AND CONNECTION TO BOTH BAS AND WEB SERVER.

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DATE	ISSUE
5-03-31	PROPOSAL AND PERMIT

# E4.01

## ELECTRICAL ONE-LINE DIAGRAM





TRANSFORMER FEEDER SCHEDULE - HARMONIC MITIGATING - 3 PHASE							
PRIMARY VOLTAGE				SECONDARY VOLTAGE			
480V, THREE PHASE				120/208V, THREE PHASE, FOUR WIRE			
KVA	FEEDER	CONDUIT	BREAKER	FEEDER	CONDUIT	BREAKER	G.E.C. SIZE
15	3 #10, 1 #10 G.	3/4"	25A/3P	3 #8, 1 #4N, 1 #6G.	1"	60A/3P	#8
30	3 #8, 1 #10 G.	1"	45A/3	3 #3, 1 #10N, 1 #6G.	1 1/4"	100A/3P	#8
45	3 #4, 1 #8 G.	1"	70A/3P	3 #10, 1 #40N, 1 #6G.	2"	150A/3P	#6
75	3 #1, 1 #6 G.	1 1/4"	125A/3P	3 #250, 2 #30N, 1 #2G.	3"	250A/3P	#2
112.5	3 #20, 1 #6 G.	1 1/2"	175A/3P	3 #600, 2 #30N, 1 #10G.	4"	400A/3P	#10
150	3 #40, 1 #4 G.	2"	225A/3P	(2) SETS OF 3 #250, 2 #30N, 1 #10G.	3"	500A/3P	#10
225	3 #500, 1 #3 G.	3"	350A/3P	(2) SETS OF 3 #600, 2 #300N, 1 #30G.	4"	800A/3P	#30
300	(2) SETS OF 3 #40, 1 #2G	2 1/2"	450A/3P	(3) SETS OF 3 #500, 2 #250N, 1 #30G.	3 1/2"	1000A/3P	#30
500	(2) SETS OF 3 #500, 1 #10G	3"	800A/3P	(5) SETS OF 3 #500, 2 #300N, 1 #350G.	3 1/2"	1800A/3P	#30

NOTE:  
-ALL CONDUCTORS SHALL BE COPPER

TRANSFORMER FEEDER SCHEDULE - GENERAL PURPOSE - 3 PHASE							
PRIMARY VOLTAGE				SECONDARY VOLTAGE			
480V, THREE PHASE				120/208V, THREE PHASE, FOUR WIRE			
KVA	FEEDER	CONDUIT	BREAKER	FEEDER	CONDUIT	BREAKER	GND. ELEC. SIZE
3	3 #12, 1 #12G.	3/4"	15A/3P	4 #12, 1 #8G.	3/4"	15A/3P	#8
6	3 #12, 1 #12G.	3/4"	15A/3P	4 #10, 1 #8G.	3/4"	25A/3P	#8
9	3 #12, 1 #12G.	3/4"	15A/3P	4 #10, 1 #8G.	3/4"	25A/3P	#8
15	3 #10, 1 #10G.	3/4"	25A/3	4 #6, 1 #8G.	1"	60A/3P	#8
30	3 #8, 1 #10G.	1"	45A/3P	4 #3, 1 #8G.	1 1/4"	100A/3P	#8
45	3 #4, 1 #8G.	1"	70A/3P	4 #10, 1 #6G.	1 1/2"	150A/3P	#6
75	3 #1, 1 #6G.	1 1/4"	125A/3P	4 #250, 1 #2G.	2 1/2"	250A/3P	#2
75	3 #3, 1 #8G.	3/4"	100A/3P	4 #40, 1 #2G.	2 1/2"	225A/3P	#2
112.5	3 #20, 1 #6G.	1 1/2"	175A/3P	4 #600, 1 #10G.	4"	400A/3P	#10
150	3 #40, 1 #4G.	2"	225A/3P	(2) SETS OF 4 #250, 1 #10G.	2 1/2"	500A/3P	#10
225	3 #500, 1 #3G.	3"	350A/3P	(2) SETS OF 4 #600, 1 #30G.	4"	800A/3P	#30
300	(2) SETS OF 3 #40, 1 #2G.	2 1/2"	450A/3P	(3) SETS OF 4 #500, 1 #30G.	3 1/2"	1000A/3P	#30
400	(2) SETS OF 3 #350, 1 #1G.	2 1/2"	600A/3P	(4) SETS OF 4 #500, 1 #250G.	4"	1600A/1400A/13P	#30
500	(2) SETS OF 3 #500, 1 #10G.	3"	800A/3P	(5) SETS OF 4 #500, 1 #350G.	4"	2000A/1800A/13P	#30

NOTE:  
-ALL CONDUCTORS SHALL BE COPPER

LIGHTING CONTROLS DEVICE SCHEDULE		
TYPE	DESCRIPTION	COMMENTS
$\mathcal{S}_{\mathcal{L}}^{\mathcal{L}} \mathcal{S}_{\mathcal{L}}^{\mathcal{L}} \mathcal{S}_{\mathcal{L}}^{\mathcal{L}}$	LINE VOLTAGE SWITCH.	'3' INDICATES THREE WAY SWITCHING. '4' INDICATES FOUR WAY SWITCHING. 'K' INDICATES SWITCH SHALL BE KEYED SWITCH.
$\mathcal{S}_{\mathcal{M}}^{\mathcal{M}}$	LINE VOLTAGE MOMENTARY CONTACT SWITCH.	
$\mathcal{S}_{\mathcal{D}}^{\mathcal{D}}$	LINE VOLTAGE DIMMER SWITCH	DIMMER FOR USE IN DWELLING UNIT. COORDINATE DIMMING TYPE WITH FINAL FIXTURE AND LAMP SELECTION TO ENSURE COMPATIBILITY.
$\mathcal{S}_{\mathcal{3}}^{\mathcal{3}}$	LINE VOLTAGE DIMMER WITH 3-WAY SWITCH.	3-WAY DIMMER FOR USE IN DWELLING UNIT. COORDINATE DIMMING TYPE WITH FINAL FIXTURE AND LAMP SELECTION TO ENSURE COMPATIBILITY.
$\mathcal{S}_{\mathcal{F}}$	MULTI-SPEED FAN CONTROLLER WITH LINE VOLTAGE SWITCH.	
$\mathcal{S}_{\mathcal{T}}$	LINE VOLTAGE TIMER SWITCH WITH DIGITAL TIMER.	RATED FOR 120/277VAC. PROVIDE WITH AUDIBLE & VISUAL ALERTS. USER PROGRAMMABLE FOR 5MIN-12HR TIME-OUT SETTINGS.
$\mathcal{S}_{\mathcal{O}C1}$	LINE VOLTAGE WALL MOUNT DUAL TECHNOLOGY OCCUPANCY SENSOR	SENSOR SHALL BE SET TO VACANCY MODE
$\mathcal{S}_{\mathcal{O}C2}$	LINE VOLTAGE WALL MOUNT DUAL TECHNOLOGY OCCUPANCY SENSOR WITH DUAL RELAYS.	SENSOR SHALL BE SET TO VACANCY MODE. ONE RELAY SHALL SERVE 120 VOLT LIGHTING IN AREA INDICATED, AND ONE RELAY SHALL SERVE 277 VOLT LIGHTING.
$\mathcal{S}_{\mathcal{O}C3}$	LOW VOLTAGE OC SENSOR SWITCH WITH 0-10V DIMMER	SENSOR SHALL BE SET TO VACANCY MODE
$\mathcal{S}_{\mathcal{L}V}^{\mathcal{L}V} \mathcal{S}_{\mathcal{L}V}^{\mathcal{L}V}$	LOW VOLTAGE MANUAL CONTROL.	CONNECT TO POWER PACK OR ROOM CONTROLLER IF OCCUPANCY SENSORS ARE INDICATED ON PLAN. PROVIDE MULTI-BUTTON SWITCH AS REQUIRED PER SWITCH LEGS SHOWN ON PLANS. 'K' INDICATES SWITCH SHALL BE KEYED SWITCH.
$\mathcal{S}_{\mathcal{O}N}^{\mathcal{O}N} \mathcal{S}_{\mathcal{O}N}^{\mathcal{O}N}$	LOW VOLTAGE MANUAL CONTROL.	CONNECT TO RELAY PANEL OR TIME CLOCK FOR TIME OF DAY OVERRIDE AS NOTED ON PLANS. PROVIDE MULTI-BUTTON SWITCH AS NOTED ON PLANS. 'K' INDICATES SWITCH SHALL BE KEYED SWITCH.
$\mathcal{S}_{\mathcal{O}}$	LOW VOLTAGE SWITCH WITH 0-10V DIMMER	PROVIDE MULTI-BUTTON SWITCH AS REQUIRED PER SWITCH LEGS SHOWN ON PLANS. PROVIDE POWER PACKS OR ROOM CONTROLLERS AS REQUIRED.
$\mathcal{O}C1$	CEILING MOUNTED DUAL TECH OCCUPANCY SENSOR.	SET TO VACANCY MODE. PROVIDE POWER PACKS AS NEEDED.
$\mathcal{O}C2$	CEILING MOUNTED DUAL TECH OCCUPANCY SENSOR.	SET TO OCCUPANCY MODE. PROVIDE POWER PACKS AS REQUIRED.
$\mathcal{O}C3$	CEILING MOUNTED ULTRASONIC OR MICROPHONIC OCCUPANCY SENSOR.	SET TO OCCUPANCY MODE. PROVIDE POWER PACKS AS REQUIRED.
$\mathcal{O}C4$	CORNER MOUNTED DUAL TECH OCCUPANCY SENSOR.	SET TO VACANCY MODE. PROVIDE POWER PACKS AS REQUIRED.
$\mathcal{O}C5$	WET LOCATION PIR OCCUPANCY SENSOR.	CONNECT GARAGE OCCUPANCY SENSORS TO RELAY PANEL SERVING AREA. PROVIDE POWER PACKS FOR CONTROL WHERE NOT LOCATED IN THE GARAGE.
$\mathcal{O}C6$	CEILING MOUNTED DUAL TECH OCCUPANCY SENSOR FOR HIGH BAY APPLICATION.	SET TO VACANCY MODE. PROVIDE POWER PACKS AS REQUIRED.
$\mathcal{P}C$	DIGITAL PHOTOSENSOR	CONNECT TO ROOM CONTROLLER OR RELAY PANEL AS NOTED ON PLANS.
$\mathcal{D}S$	DAYLIGHT HARVESTING SENSOR	CONNECT TO ROOM CONTROLLER OR INDIVIDUAL LIGHT FIXTURE FOR DAYLIGHT HARVESTING DIMMING CONTROL.

NOTES:  
1. WATTSOPPER IS THE BASIS OF DESIGN.  
2. THE LIGHTING CONTROLS SCHEDULED ARE THE BASIS OF DESIGN. IT IS NOT INTENDED TO LIMIT COMPETITION FROM EQUAL MANUFACTURERS. ALL BIDDERS SHALL SUBMIT THEIR PROPOSED LIGHTING CONTROLS IN SUBMITTAL FORM A MINIMUM OF 10 BUSINESS DAYS PRIOR TO BID DATE FOR REVIEW. APPROVED LIGHTING CONTROL SYSTEMS WILL BE ISSUED IN AN ADDENDUM.  
3. BASIS OF DESIGN SHALL BE A HARD-WIRED TYPE SYSTEM, UNLESS NOTED OTHERWISE.

FEEDER SCHEDULE COPPER ONLY				
RATING	SETS	CONDUCTOR SIZE	CONDUIT	
30A	1	4#10, 1#10 G.	3/4"	
40A	1	4#8, 1#10 G.	1"	
50A	1	4#8, 1#10 G.	1"	
60A	1	4#6, 1#10 G.	1"	
70A	1	4#4, 1#6 G.	1 1/4"	
80A	1	4#4, 1#6 G.	1 1/4"	
90A	1	4#3, 1#6 G.	1 1/4"	
100A	1	4#3, 1#6 G.	1 1/4"	
125A	1	4#1, 1#6 G.	1 1/2"	
150A	1	4#10, 1#6 G.	1 1/2"	
175A	1	4#20, 1#6 G.	2"	
200A	1	4#30, 1#6 G.	2"	
225A	1	4#40, 1#4 G.	2 1/2"	
250A	1	4#250, 1#4 G.	2 1/2"	
300A	1	4#350, 1#4 G.	3"	
350A	1	4#500, 1#3 G.	3 1/2"	
400A	1	4#600, 1#3 G.	4"	
450A	2	4#40, 1#2 G.	2 1/2"	
500A	2	4#250, 1#2G.	2 1/2"	
600A	2	4#350, 1#1G.	3"	
700A	2	4#500, 1#10G.	4"	
800A	2	4#600, 1#10G.	4"	
1000A	3	4#500, 1#20G.	4"	
1200A	4	4#350, 1#30G.	3"	
1600A	4	4#600, 1#40G.	4"	
2000A	5	4#500, 1#40G.	4"	
	5	4#600, 1#250 G.	4"	
2500A	6	4#500, 1#250 G.	4"	
	6	4#600, 1#350 G.	4"	
3000A	7	4#500, 1#350 G.	4"	
	8	4#500, 1#400 G.	4"	
3500A	9	4#600, 1#500 G.	4"	
	10	4#500, 1#500 G.	4"	
4000A	11	4#600, 1#500 G.	4"	
	12	4#600, 1#750 G.	4"	
5000A	14	4#500, 1#750 G.	4"	

1. ELECTRICAL CONTRACTOR SHALL PROVIDE THE NUMBER OF LUGS AND PROPER LUG SIZES TO ACCEPT CONDUCTOR SIZES SHOWN.
2. GROUND NOT REQUIRED AT SERVICE LATERAL.

1-PHASE 3-WIRE FEEDER SCHEDULE COPPER ONLY				
RATING	SETS	CONDUCTOR SIZE	CONDUIT	
30A	1	3#10, 1#10 G.	3/4"	
40A	1	3#8, 1#10 G.	3/4"	
50A	1	3#8, 1#10 G.	3/4"	
60A	1	3#6, 1#10 G.	1"	
70A	1	3#4, 1#6 G.	1"	
80A	1	3#4, 1#6 G.	1 1/4"	
90A	1	3#3, 1#6 G.	1 1/4"	
100A	1	3#3, 1#6 G.	1 1/4"	
125A	1	3#1, 1#6 G.	1 1/4"	
150A	1	3#10, 1#6 G.	1 1/2"	
175A	1	3#20, 1#6 G.	1 1/2"	
200A	1	3#30, 1#6 G.	2"	
225A	1	3#40, 1#4 G.	2"	
250A	1	3#250, 1#4 G.	2 1/2"	
300A	1	3#350, 1#4 G.	2 1/2"	
350A	1	3#500, 1#3 G.	3"	
400A	1	3#600, 1#3 G.	3 1/2"	
450A	2	3#40, 1#2 G.	2"	
500A	2	3#250, 1#2G.	2 1/2"	
600A	2	3#350, 1#1G.	3 1/2"	
700A	2	3#500, 1#10G.	3 1/2"	
800A	2	3#600, 1#10G.	3 1/2"	
1000A	3	3#500, 1#20G.	3"	
1200A	4	3#350, 1#30G.	3"	
1600A	4	3#600, 1#40G.	3 1/2"	
2000A	5	3#500, 1#40G.	3"	
	5	3#600, 1#250G.	3 1/2"	
2500A	6	3#500, 1#250G.	3"	
	6	3#600, 1#350G.	3 1/2"	
3000A	7	3#500, 1#350G.	3 1/2"	
	8	3#500, 1#400G.	3 1/2"	
3500A	9	3#600, 1#500G.	3 1/2"	
	10	3#500, 1#500G.	3 1/2"	
4000A	10	3#600, 1#500G.	3 1/2"	
	11	3#500, 1#500G.	3 1/2"	
5000A	11	3#500, 1#500G.	3 1/2"	

1. ELECTRICAL CONTRACTOR SHALL PROVIDE THE NUMBER OF LUGS AND PROPER LUG SIZES TO ACCEPT CONDUCTOR SIZES SHOWN.
2. GROUND NOT REQUIRED AT SERVICE LATERAL.

SURGE PROTECTION DEVICE (SPD) SCHEDULE							
MARK	MANUFACTURER	MODEL	VOLTAGE	PHASE	SURGE RATING PER MODE	BREAKER SIZE	TIERGEUIDE CABLE SIZE
SPD2	SOUTHERN TIER TECHNOLOGIES	T45120Y100AWAJ2S	208/120V	3	100/200KA	30A/3P	INCLUDED
*ALL T45 SERIES SPD ENCLOSURES INSTALLED IN FOOD SERVICE AREAS (I.E. KITCHENS, SNACK BARS, FOOD LABS, CULINARY ARTS ROOMS AND LIFE SKILLS ROOMS) SHALL BE RECESSED IN THE WALL. PROVIDE RECESSED WALL KIT JKRSS.							

TRANSFORMER SCHEDULE						
MARK	KVA	PRI. VOLTAGE	SECONDARY VOLTAGE	MOUNTING	ENCLOSURE	REMARKS
TOLV2	45.0	480V, 3PH.	208Y/120V, 3PH, 4W	PAD	Type 1	PQI TYPE "DV" SERIES HARMONIC MITIGATING.
* PROVIDE ALL TRANSFORMERS WITH ALUMINUM WINDING, UNLESS NOTED OTHERWISE.						

LIGHTING FIXTURE SCHEDULE							
TYPE	MANUFACTURER	MODEL	MOUNTING	LAMPS	VOLTAGE	WATTAGE	DESCRIPTION
A1	DAYBRITE	2FGXG-48L-840-4-RS-UNV-DIM	RECESSED	LED	277 V	36 VA	2X4 CENTER BASKET LED. 4,800 LUMENS.
A1E	EMERGLITE	2FGXG-48L-840-4-RS-UNV-DIM-SSL10LST	RECESSED	LED	277 V	36 VA	SAME AS TYPE 'A1' EXCEPT PROVIDE WITH INTEGRAL EMERGENCY BATTERY.
DRE	LIGHTOLIER	CR-X-RLM-40KCT-UNV-FINISH	RECESSED	LED	277 V	32 VA	RETROFIT LED DOWNLIGHT. WET LOCATION LISTED. CONTRACTOR SHALL FIELD VERIFY EXISTING HOLE DIAMETER AND ENSURE THE NEW RETROFIT DOWNLIGHT CAN BODY FITS IN THE EXISTING HOLE PRIOR TO ORDERING. PROVIDE EACH BRANCH CIRCUIT WITH EMERGENCY INVERTER. PROVIDE ABB 1000W HIGH CAPACITY MINI INVERTER REMU-1000 SIZED FOR ALL EMERGENCY FIXTURES ON THE CIRCUIT. CONNECT EACH EMERGENCY LIGHT FIXTURE ON CIRCUIT TO EMERGENCY INVERTER. LOCATE INVERTER ADJACENT TO PANELBOARD. FIELD COORDINATE LOCATIONS.
W1E	GARDCO	GWM-A12-840-T3M-UNV-FINISH	SURFACE	LED	277 V	50 VA	LED WALL PACK. PROVIDE ABB 1000W HIGH CAPACITY MINI INVERTER REMU-1000 SIZED FOR ALL EMERGENCY FIXTURES ON THE CIRCUIT. CONNECT EACH EMERGENCY LIGHT FIXTURE ON CIRCUIT TO EMERGENCY INVERTER. LOCATE INVERTER ADJACENT TO PANELBOARD. FIELD COORDINATE LOCATIONS.
X1	EMERGLITE	W-PREM-DN-R	SURFACE	LED	277 V	3 VA	SINGLE-FACE EXIT SIGN WITH INTEGRAL BATTERY BACKUP. PROVIDE CHEVRON ARROWS AS SHOWN ON PLANS.
X2	EMERGLITE	W-PREM-DN-R	SURFACE	LED	277 V	3 VA	DOUBLE-FACE EXIT SIGN WITH INTEGRAL BATTERY BACKUP. PROVIDE CHEVRON ARROWS AS SHOWN ON PLANS.

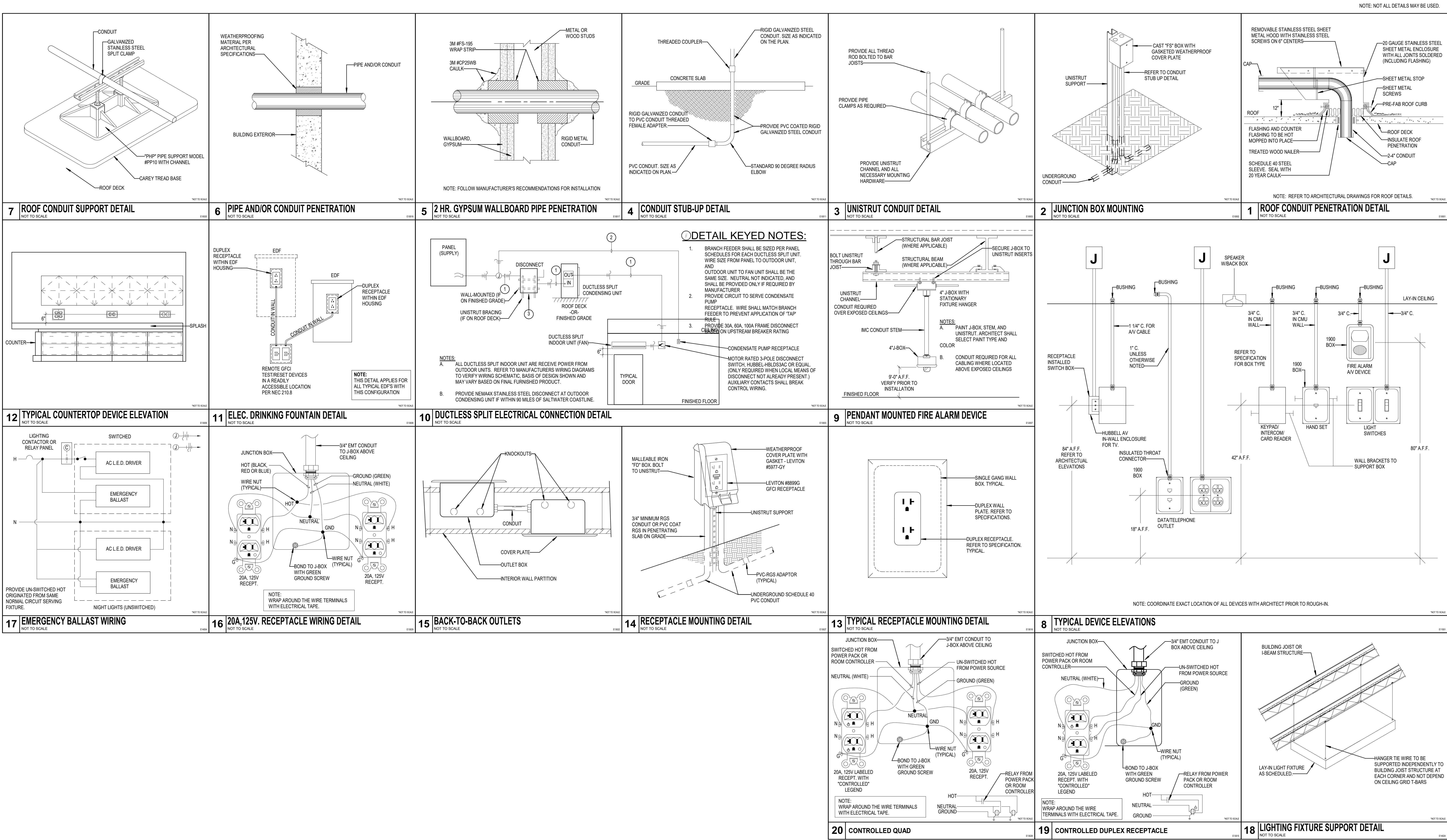
- NOTES:  
1. LIGHTING FIXTURE CATALOG NUMBERS AND DESCRIPTIONS ARE SCHEDULED FOR ESTABLISHING QUALITY, APPEARANCE AND PERFORMANCE OF THE FIXTURES AS REQUIRED BY THE DESIGN. EXACT CATALOG NUMBERS DESCRIBING MOUNTING CONDITIONS, FINISHES AND REQUIREMENTS RELATED TO TRIMS AND LENS FOR ALL FIXTURES SHALL BE CONFIRMED (BY THE CONTRACTOR) WITH THE ROOM FINISH SCHEDULE AND REFLECTED CEILING PLANS, INCLUDING GRID TYPES, ON THE ARCHITECTURAL DRAWINGS PRIOR TO BIDDING. FIXTURES SHALL BE SUBMITTED ACCORDING TO THE CONDITIONS INDICATED ON THE ARCHITECTURAL PLANS. REFER TO THE WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.  
2. THE NEW LIGHT FIXTURES SCHEDULED ARE THE BASIS OF DESIGN. IT IS NOT INTENDED TO LIMIT COMPETITION FROM EQUAL MANUFACTURERS. ALL BIDDERS SHALL SUBMIT THEIR PROPOSED LIGHT FIXTURES IN SUBMITTAL FORM A MINIMUM OF 10 BUSINESS DAYS PRIOR TO BID DATE FOR REVIEW. APPROVED LIGHT FIXTURES WILL BE ISSUED IN AN ADDENDUM.

TIME CLOCK SCHEDULE						
NAME	POLES/ CIRCUITS	AMPS PER POLE	VOLTAGE	NOTES	REMARKS	
TC-2HV-1	4	30A	120/277	1,2	NEMA 3R, PROGRAM AS DIRECTED BY OWNER	

- NOTES:  
1. TIME CLOCK SHALL BE INTERMATIC 90000 SERIES RATED 20 AMP WITH BATTERY BACKUP.  
2. PROVIDE TIME CLOCK WITH OUTDOOR PHOTOCELL TO CONTROL EXTERIOR LIGHTS.  
3. CONTRACTOR SHALL PROVIDE 120V POWER FOR CONTROLS FROM NEAREST 120V CIRCUIT SERVING CONVENIENCE RECEPTACLES.

IECC 2021 STANDARD SEQUENCE of OPERATIONS	AUTO ON	MANUAL ON (VACANCY)	AUTO OFF (30 MIN MAX)	PARTIAL OFF AT NORMAL HOURS	AUTO OFF AFTER HOURS (30 MIN MAX)	TIME ON	TIME OFF	ASTRONOMIC or PHOTOCELL ON/OFF
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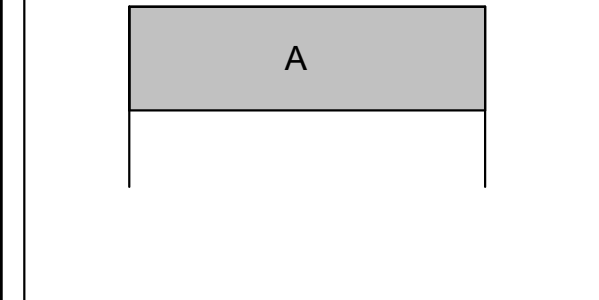




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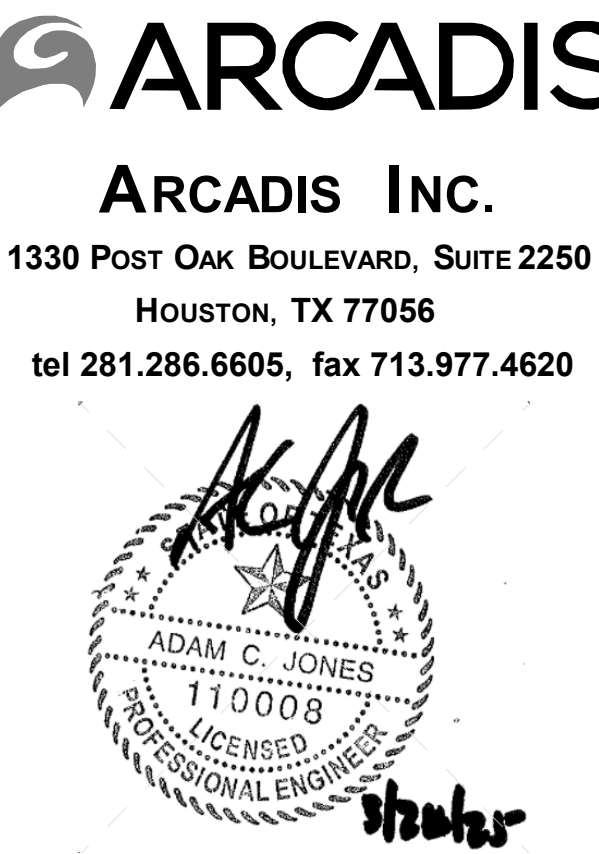
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CJG Engineers  
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Houston, TX 77042  
Tel: 713.780.3345  
Fax: 713.780.3712



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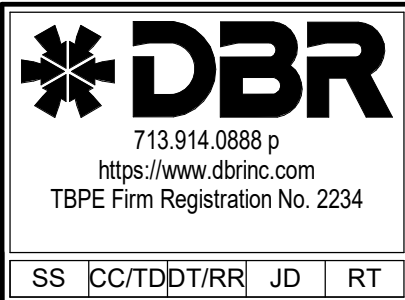


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ISSUE: PROPOSAL AND PERMIT

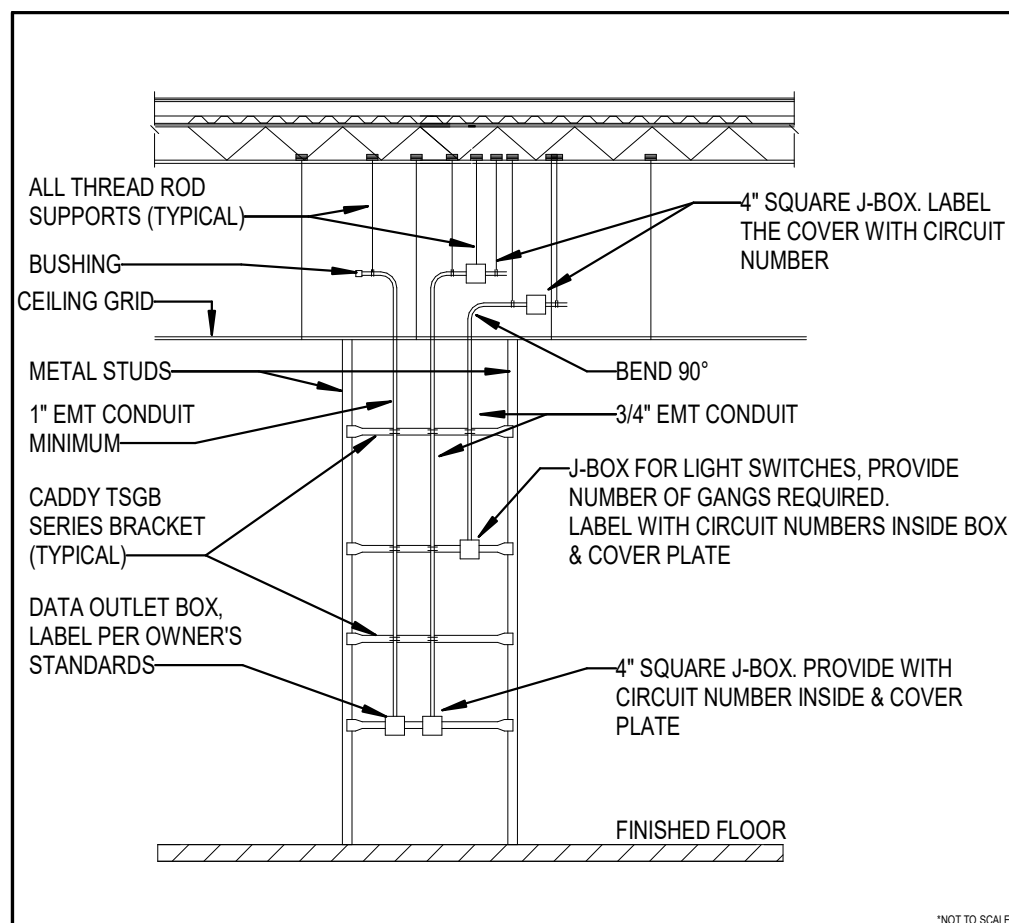
E6.01

ELECTRICAL  
DETAILS



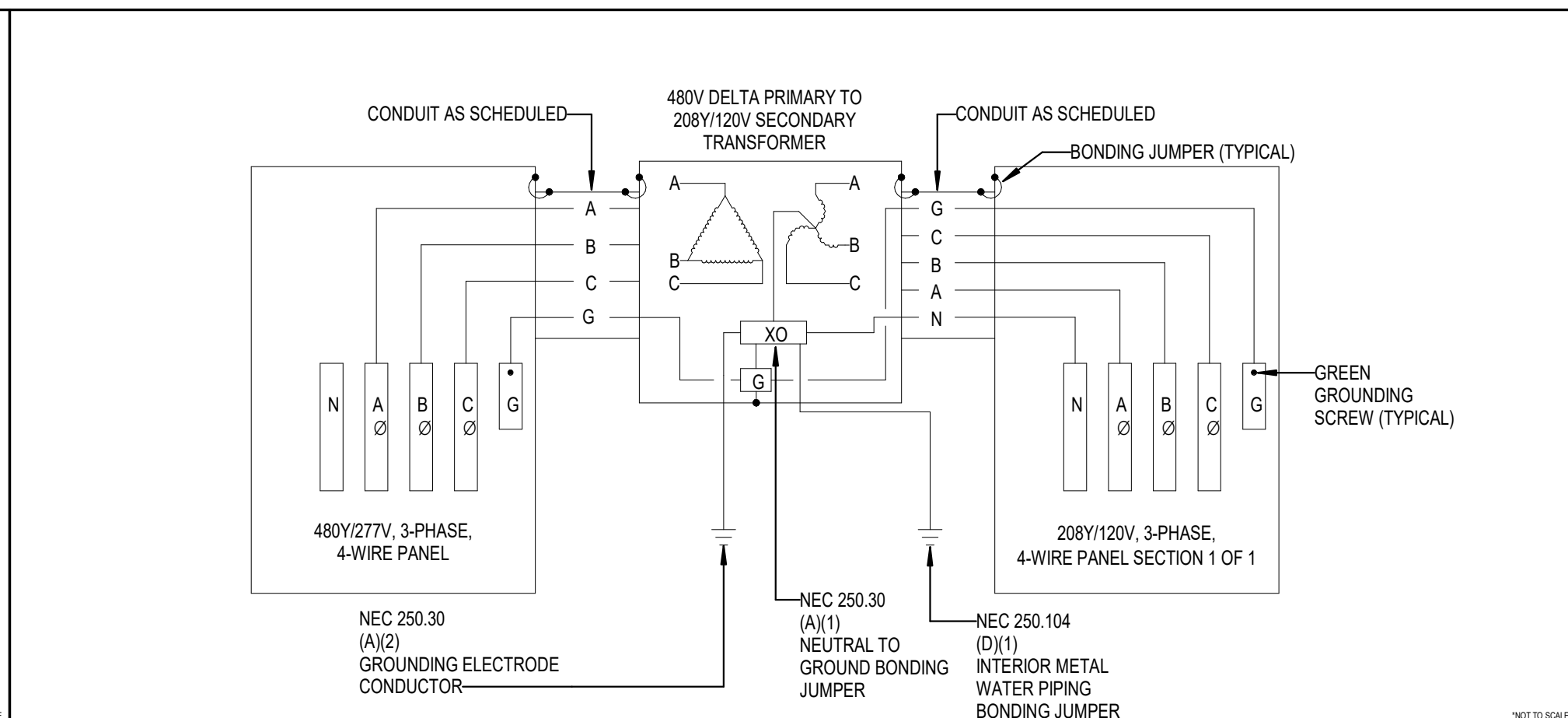


NOTE: NOT ALL DETAILS MAY BE USED.



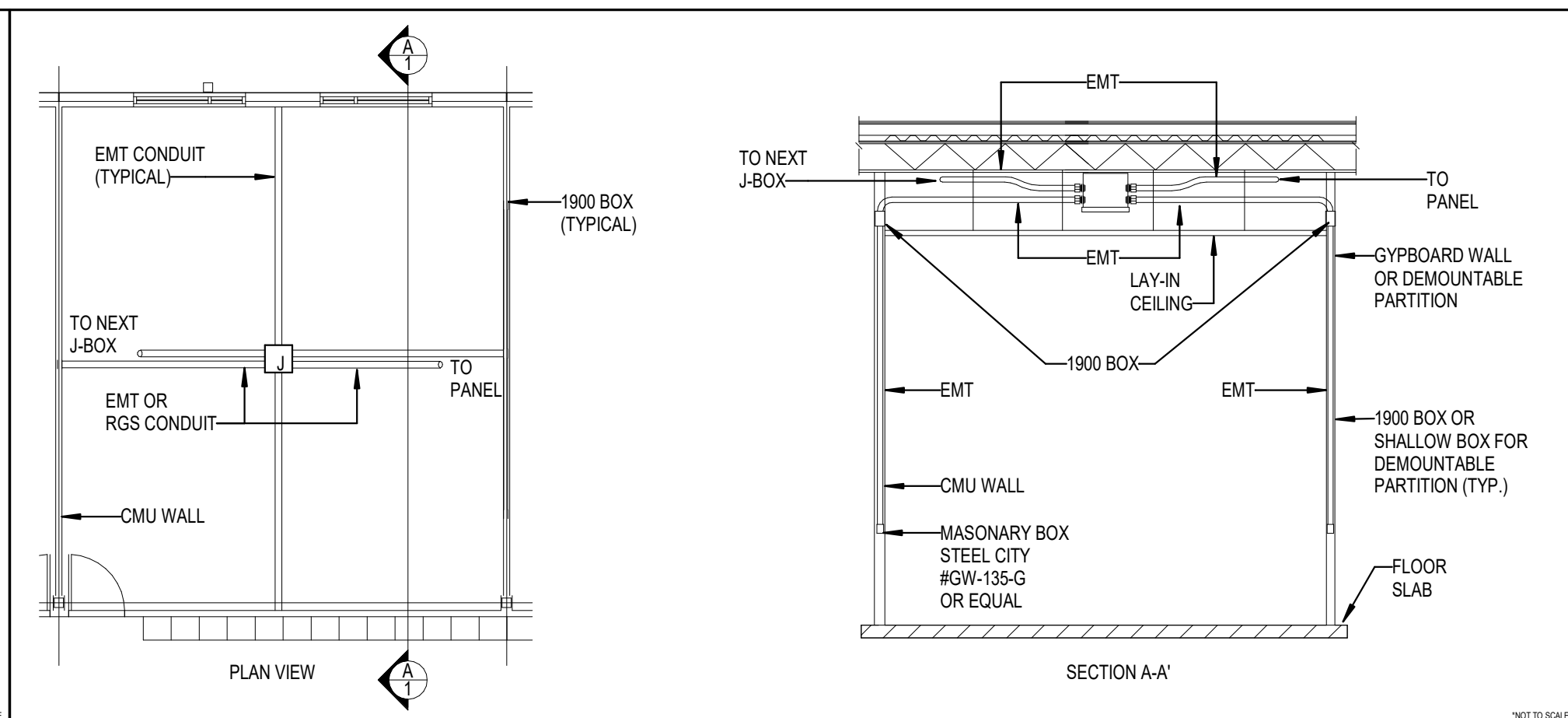
7 CONDUIT ROUGH-IN DETAIL

NOT TO SCALE



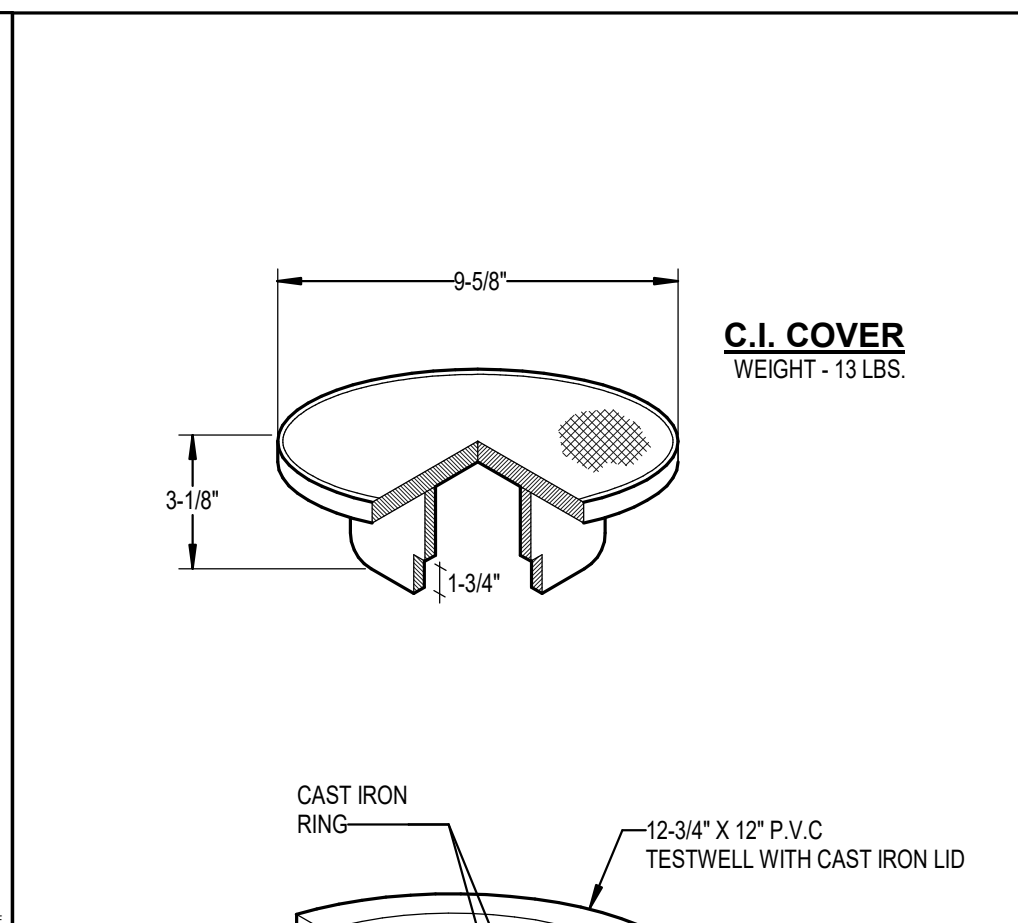
4 3-PHASE HMT TRANSFORMER WIRING SCHEMATIC

NOT TO SCALE



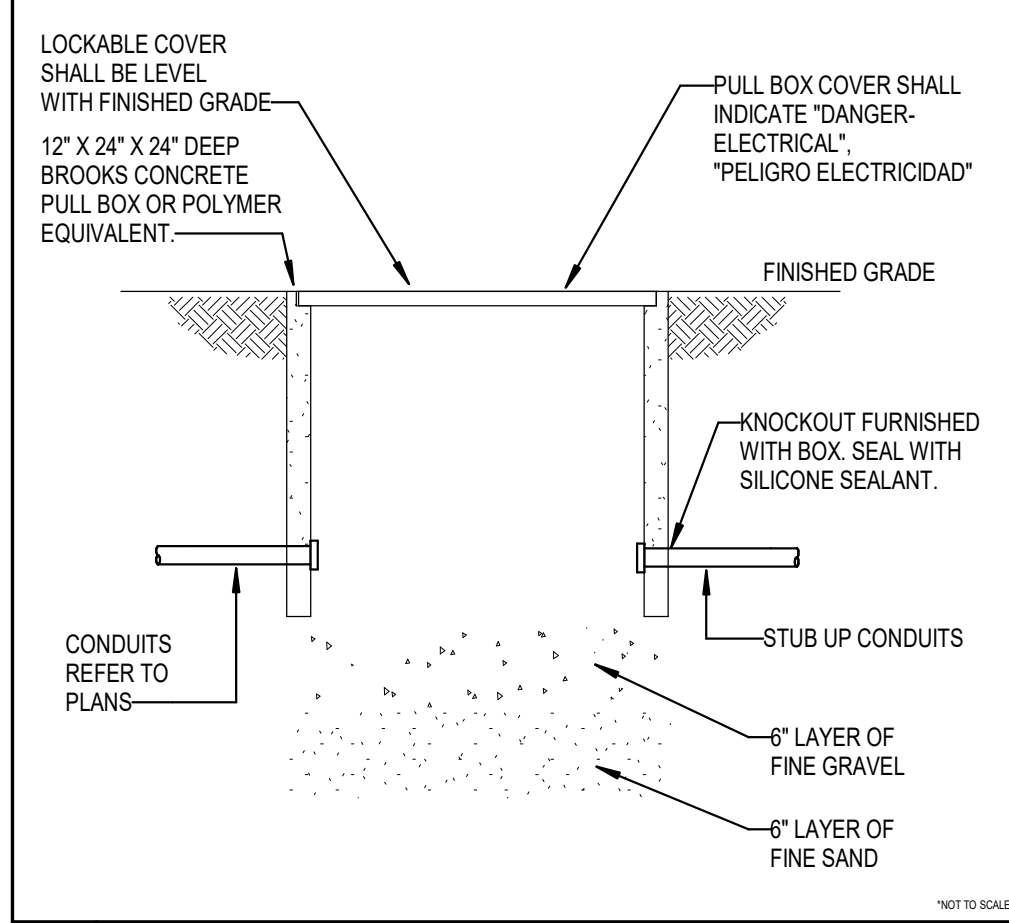
2 TYPICAL RACEWAY CONFIGURATION

NOT TO SCALE



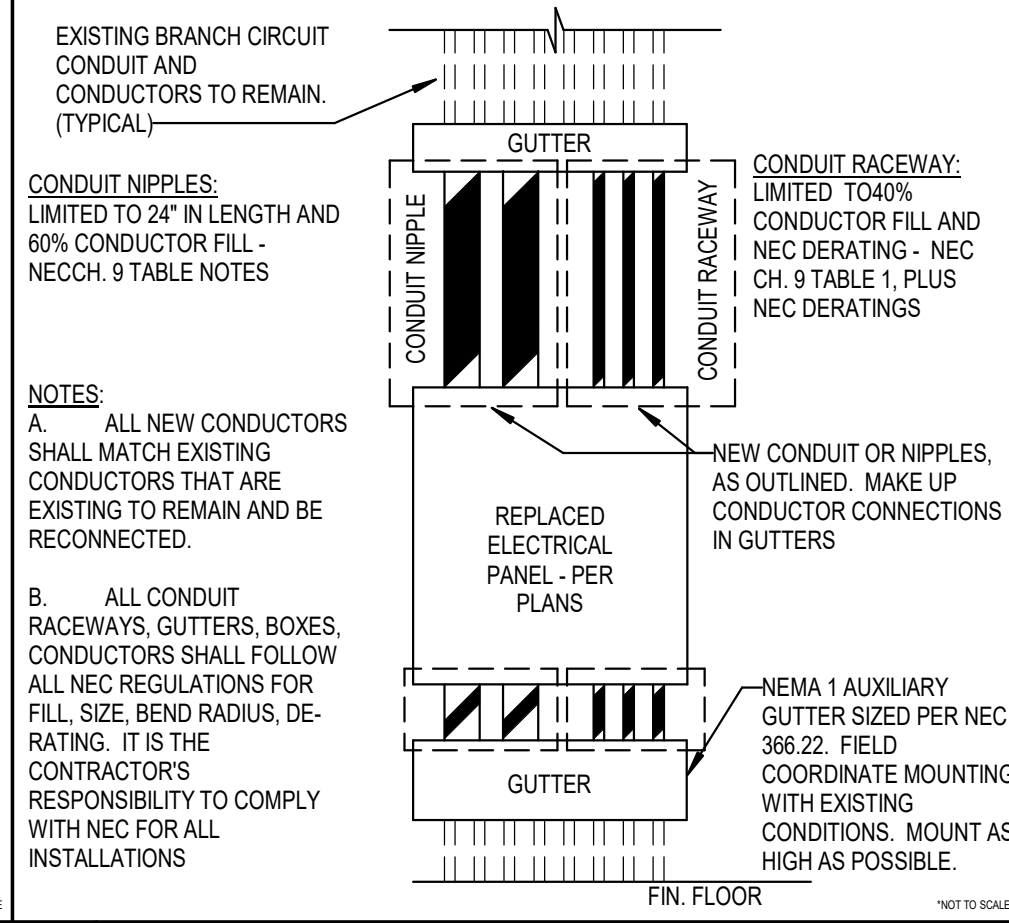
1 GROUND TESTWELL ENCLOSURE

NOT TO SCALE



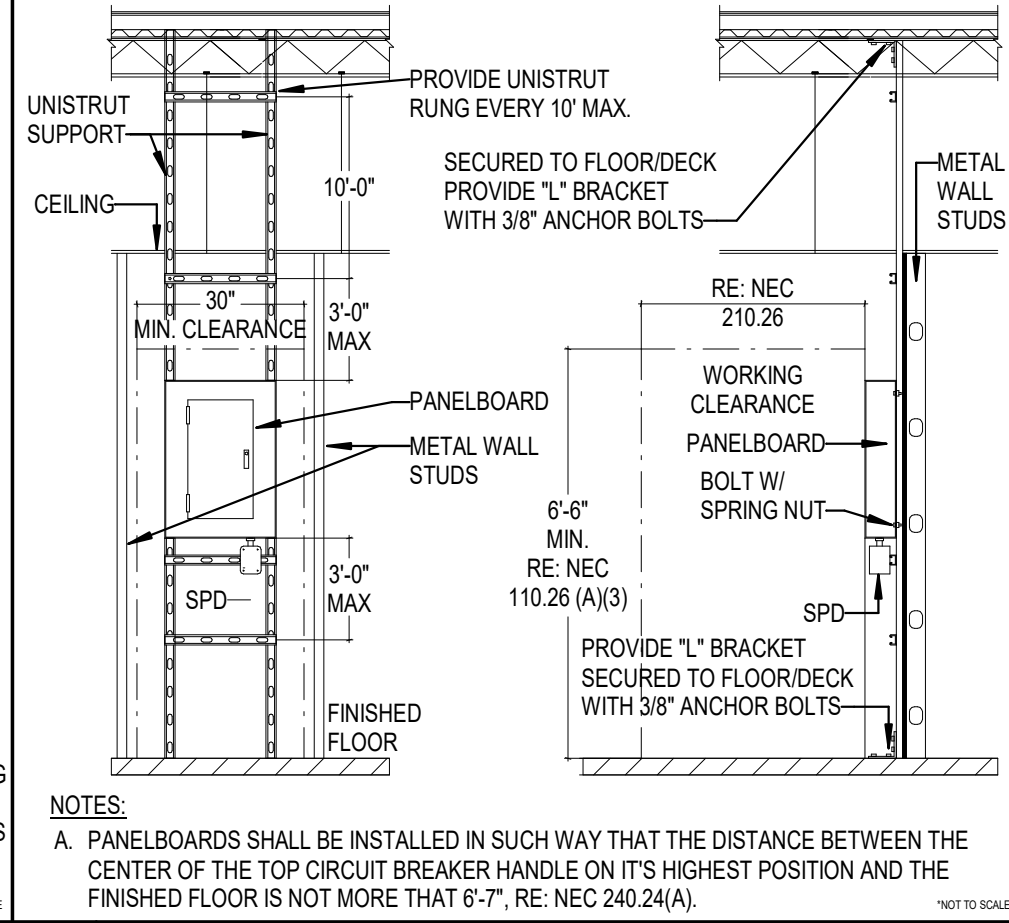
8 PULL BOX DETAIL

NOT TO SCALE



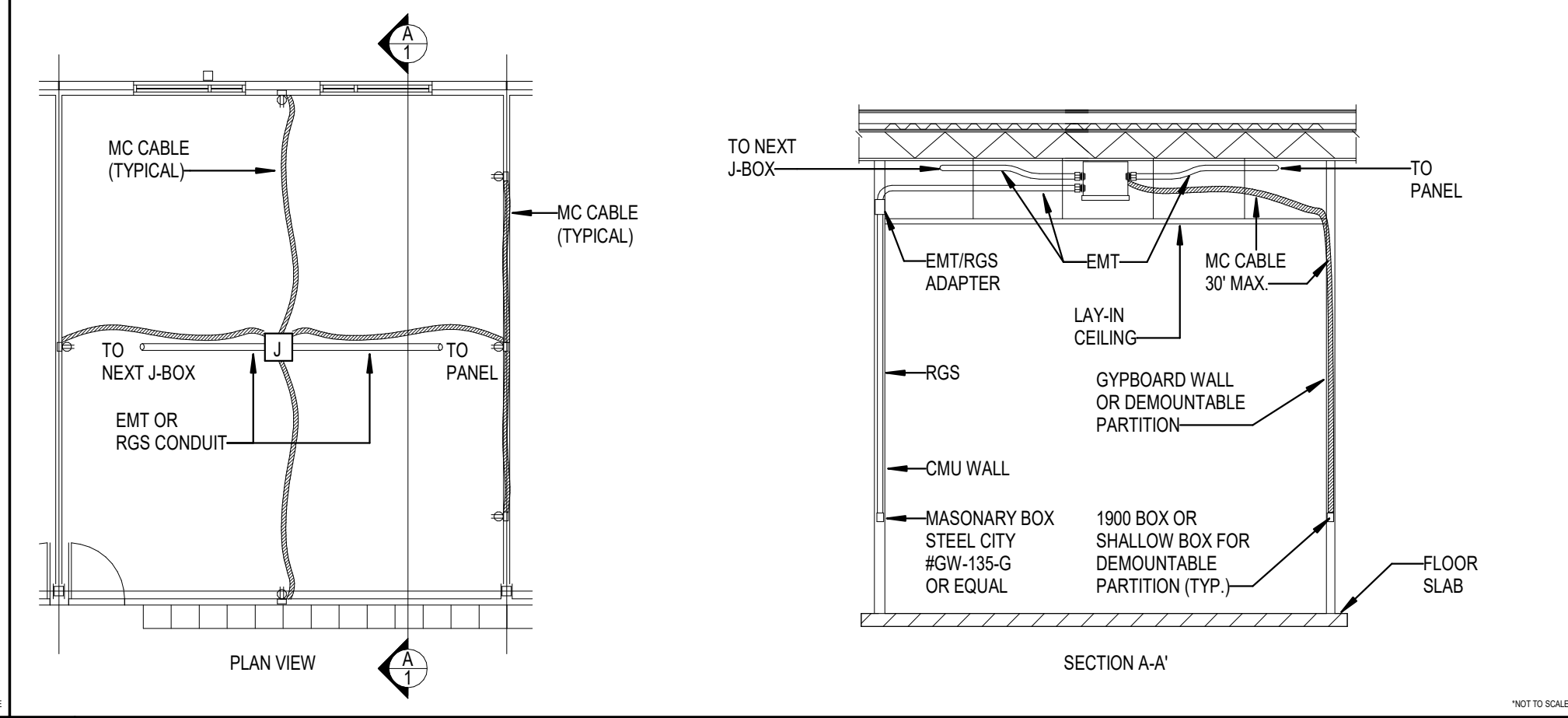
6 PANEL REPLACEMENT DETAIL

NOT TO SCALE



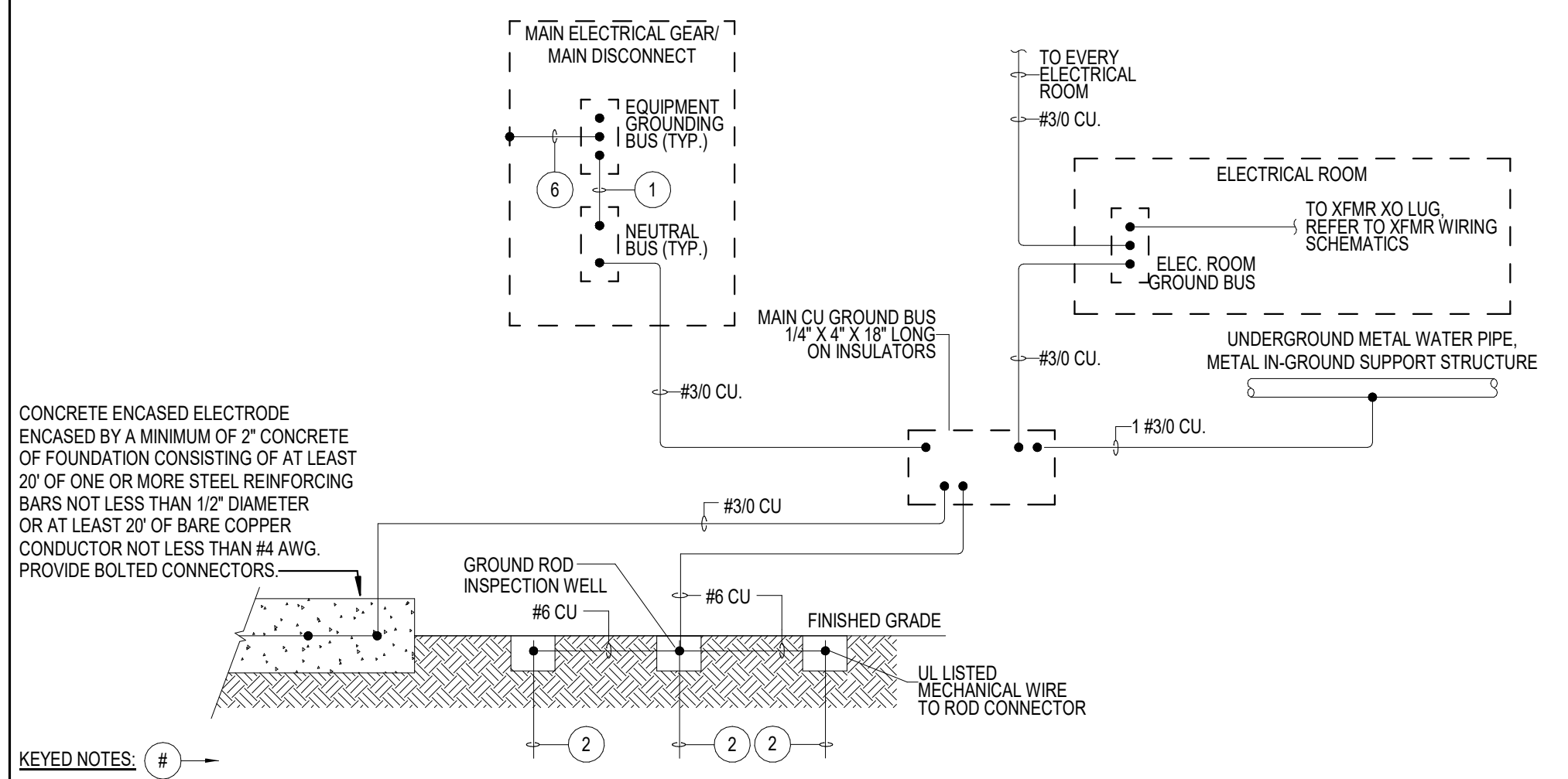
5 PANELBOARD MOUNTING DETAIL

NOT TO SCALE



3 TYPICAL RACEWAY CONFIGURATION

NOT TO SCALE



9 GROUNDING ELECTRODE SYSTEM AND BONDING - SINGLE SERVICE

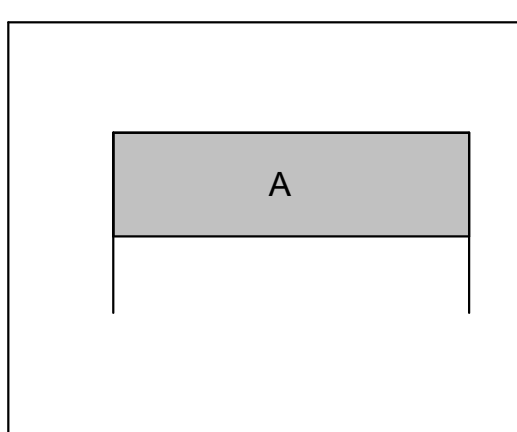
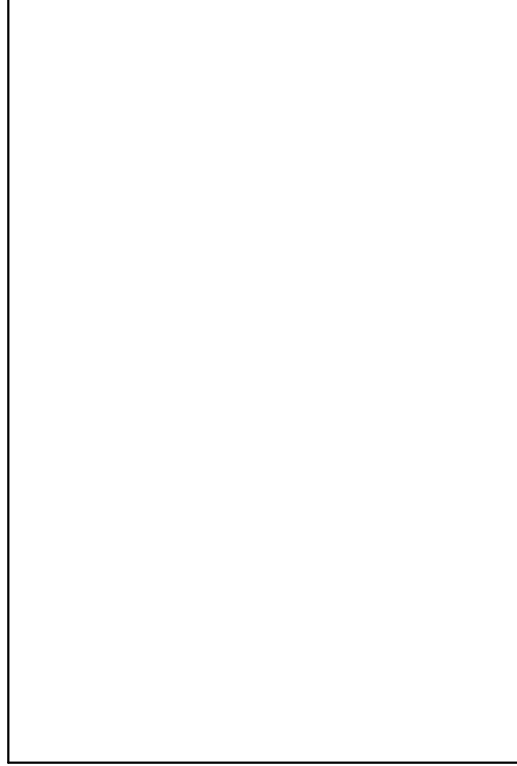
- KEYED NOTES: 1. MAIN BONDING JUMPER SIZED BY MANUFACTURER OR TABLE 250.102(C)(1). 2. COPPER BONDED STEEL ELECTRODE 5/8\"/>

NOT TO SCALE

CONSULTANTS

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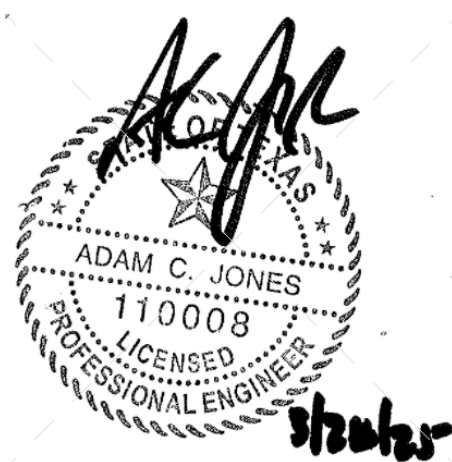
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BLDG.4 RENOVATION

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ARCADIS INC.  
1330 POST OAK BOULEVARD, SUITE 2250  
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CHECKED: Checker

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E6.02

ELECTRICAL  
DETAILS



SS CC/TD/T/RR JD RT



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A diagram of a rectangular block labeled 'A'. The block is shaded gray and is positioned on a horizontal surface, indicated by two vertical lines extending downwards from its base.

**TISD INNOVATION CENTER  
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# P0.01

## PLUMBING SYMBOL LEGEND



ABBREVIATIONS			SYMBOLS			MISCELLANEOUS			
A	G	Q	PLUMBING SYSTEMS		PIPING FITTINGS		MISCELLANEOUS		
A AC AD ADA AFF AFG AP ARCH ASME ASTM AUX AV AVV AW	AR (COMPRESSED) AIR COMPRESSOR AMERICANS WITH DISABILITIES ACT ARCHITECT, ARCHITECTURAL AMERICAN SOCIETY OF MECHANICAL ENGINEERS AMERICAN SOCIETY OF TESTING AND MATERIALS AUXILIARY AIR VENT AIR ADMITTANCE VALVE ACID WASTE	G GAS GA GAUGE GAL GALLON GALV GALVANIZED GC GENERAL CONTRACTOR GCO GRADE CLEANOUT GD GARBAGE DISPOSAL GI GREASE INTERCEPTOR GL GLOBE VALVE GPD GALLONS PER DAY GPM GALLONS PER MINUTE GPH GALLONS PER HOUR GPM GALLONS PER MINUTE GV GATE VALVE, GREASE VENT GW GREASE WASTE GWH GAS WATER HEATER	QTY QUANTITY	SANITARY DRAIN BELOW FLOOR EXISTING SOIL OR WASTE PIPING B.G. - S(E) SANITARY DRAIN ABOVE FLOOR EXISTING SOIL OR WASTE PIPING A.G. - S(E) PIPE DEMO SANITARY VENT EXISTING VENT PIPING GREASE WASTE(ABOVE CEILING) GREASE WASTE(BELOW FLOOR) STORM DRAIN(ABOVE CEILING) STORM DRAIN(BELOW FLOOR) OVERFLOW DRAIN(ABOVE CEILING) OVERFLOW DRAIN(BELOW FLOOR) ACID WASTE(ABOVE CEILING) EXISTING ACID WASTE PIPING A.G. - AW(E) ACID WASTE(BELOW FLOOR) EXISTING ACID WASTE PIPING B.G. - AW(E) ACID VENT(ABOVE CEILING OR BELOW FLOOR) EXISTING ACID VENT PIPING - A(E) NON-POTABLE - COLD WATER COLD WATER - CW EXISTING DOMESTIC COLD WATER - CW(E) HOT WATER - HW EXISTING DOMESTIC HOT WATER - HW(E) HOT WATER RECIRCULATION EXISTING DOMESTIC HOT WATER RETURN - HW(R) NATURAL GAS (LOW PRESSURE) NATURAL GAS (MEDIUM PRESSURE) NATURAL GAS (HIGH PRESSURE) TEMPERED WATER COMPRESSED AIR MEDICAL AIR MEDICAL OXYGEN MEDICAL VACUUM FIRE STANDPIPE, FIRE LINE WET AUTOMATIC FIRE SPRINKLER FORCE WASTE TRAP PRIMER DRAIN LINE SOFT WATER LINT WASTE LIQUIFIED PETROLEUM GAS NITROGEN NITROUS OXIDE INSTRUMENT AIR WASTE ANESTHETIC GAS DISPOSAL		CAP ON END OF PIPE ELBOW UP ELBOW DOWN VALVE IN DROP VALVE IN RISE DIRECTION OF FLOW DIRECTION OF SLOPE DOWN CONCENTRIC REDUCER ECCENTRIC REDUCER TEE OUTLET UP TEE OUTLET DOWN UNION FLANGE STRAINER WITH BLOWDOWN VALVE GATE VALVE, HVAC BALANCING/STOP VALVE GLOBE VALVE BALL VALVE BALANCING VALVE WITH DIFFERENTIAL PRESSURE TAPS OS&Y VALVE CHECK VALVE BUTTERFLY VALVE TWO-WAY MODULATING CONTROL VALVE THREE-WAY MODULATING CONTROL VALVE SOLENOID VALVE PRESSURE REDUCING VALVE GAS REGULATOR GAS COCK SPRINKLER FLOOR CONTROL STATION MANUAL AIR VENT AUTOMATIC AIR VENT T&P RELIEF VALVE LINE CLEANOUT/WALL CLEANOUT FLOOR CLEANOUT GRADE CLEANOUT PRESSURE GAUGE WITH GAUGE COCK THERMOMETER FLOW VENTURI VACUUM BREAKER VACUUM RELIEF VALVE BACKFLOW PREVENTOR CIRCULATING PUMP WATER SUB-METER LOCAL ALARM MASTER ALARM AREA ALARM		RAIN(TYPE AND SIZE AS NOTED ON PLANS) ROOF DRAIN OR OVERFLOW DRAIN ROOF DRAIN OR OVERFLOW DRAIN(FROM ABOVE) HOSE BIBB WALL HYDRANT PLUMBING FIXTURES TEE OUTLET UP EXISTING PLUMBING FIXTURES POINT OF NEW CONNECTION TO EXISTING PIPING PLUMBING DRAWING NOTE REFERENCE DETAIL NUMBER OR PLAN SHEET WHERE DETAIL OR PLAN IS SHOWN FLOW SWITCH TAMPER SWITCH ACCESS PANEL (AP) FIRE DEPARTMENT SIAMESE CONNECTION(WALL MOUNTED) FIRE DEPARTMENT SIAMESE CONNECTION(FREE STANDING) PLUMBING RISER DIAGRAM NUMBER SHEET WHERE PLUMBING RISER DIAGRAM IS SHOWN	
B	H	S	T		PLUMBING CODES		PLUMBING CODES		
B BF BFF BFP BFV BOF BOS BT BTU BV BWV	HB HOSE BIBB HC HANDICAPPED HD HEAD, HUB DRAIN HWP HOUSEKEEPING PAD HP HORSEPOWER HR HOSE REEL HSC HORIZONTAL SPLIT CASE HT HEIGHT HTR HEATER HW HOT WATER HWR HOT WATER RETURN HZ HERTZ	SA SHOCK ABSORBER SC SCHEDULE SD STORM DRAIN, SANITARY DRAIN SEC SECONDARY SECT SECTION SF SQUARE FEET SH SHOWER SHI SOLID HAIR INTERCEPTOR SI SOLIDS INTERCEPTOR SM SIMILAR SK SINK SOS SAND OIL SEPARATOR SOV SHUT-OFF VALVE SP SUMP PUMP, STATIC PRESSURE SPEC SPECIFICATION SPR SPRINKLER SQ SQUARE SS SERVICE SINK, SOIL STACK, STAINLESS STEEL SSD SUBSURFACE DRAIN STD STANDARD STL STEEL STR STRAINER SV SANITARY VENT SW SOFT WATER	TOO TRAFFIC CLEANOUT TD TRENCH DRAIN TDH TOTAL DYNAMIC HEAD TDL TOTAL DEVELOPED LENGTH TLT TOLERANCE TMV THERMOSTATIC MIXING VALVE TOB TOP OF BEAM TOF TOP OF FOOTER TP TRAP PRIMER TPD TRAP PRIMER DEVICE TS TAMPER SWITCH TYP TYPICAL	2021 INTERNATIONAL FIRE CODE (IFC) 2015 INTERNATIONAL BUILDING CODE (IBC) 2015 INTERNATIONAL PLUMBING CODE (IPC)		2021 INTERNATIONAL FIRE CODE (IFC) 2015 INTERNATIONAL BUILDING CODE (IBC) 2015 INTERNATIONAL PLUMBING CODE (IPC)			
C	I	J	U		PLUMBING CODES		PLUMBING CODES		
C CAB CB CD CI CJC CFM CFS CMU CL COL CONC CONN CP CPI CPVC CTE CW	ID INSIDE DIAMETER IE INVERT ELEVATION IN INCH INSUL INSULATION IW INDIRECT WASTE IWH INSTANTANEOUS WATER HEATER	JP JOCKEY PUMP	KEC KITCHEN EQUIPMENT CONTRACTOR KVA KILOVOLT-AMPS KW KILOWATT	U URINAL UF UNDERFLOOR UG UNDERGROUND UH UNIT HEATER UL UNDERWRITERS LABORATORIES, INC. UNO UNLESS NOTED OTHERWISE US UNDERSLAB	2021 INTERNATIONAL FIRE CODE (IFC) 2015 INTERNATIONAL BUILDING CODE (IBC) 2015 INTERNATIONAL PLUMBING CODE (IPC)		2021 INTERNATIONAL FIRE CODE (IFC) 2015 INTERNATIONAL BUILDING CODE (IBC) 2015 INTERNATIONAL PLUMBING CODE (IPC)		
D	M	V	W		PLUMBING CODES		PLUMBING CODES		
DBP DC DCVA DF DFU DIA DIM DSC DN DS DW DWG	MAX MAXIMUM MBTU/H THOUSAND OF BTU'S MECH MECHANICAL MFR MANUFACTURER MH MANHOLE MOP MOP MSB MOP SERVICE BASIN MTD MOUNTED MUW MAKE-UP WATER	N.C. NORMALLY CLOSED NFPA NATIONAL FIRE PROTECTION ASSOCIATION N/C NOT IN CONTRACT NO NORMALLY OPEN NTS NOT TO SCALE	W WATT, WASTE, WIDTH, WASHER W WITH WO WITHOUT WADG WASTE ANESTHETIC GAS DISPOSAL WB WALL BOX WC WATER CLOSET WCO WALL CLEANOUT WH WALL HYDRANT WM WATER METER WMB WASHER MACHINE BOX PH PHASE PI POST INDICATOR VALVE PLBG PLUMBING PNL PANEL POU POINT-OF-USE PP POLYPROPYLENE PPM PART PER MILLION PRS PRESSURE REDUCING STATION PRV PRESSURE REDUCING VALVE PSF POUNDS PER SQUARE FOOT PSI POUNDS PER SQUARE INCH PSIG POUNDS PER SQUARE INCH GAUGE PVC POLYVINYL CHLORIDE PVDF POLYVINYLIDENE FLUORIDE	2021 INTERNATIONAL FIRE CODE (IFC) 2015 INTERNATIONAL BUILDING CODE (IBC) 2015 INTERNATIONAL PLUMBING CODE (IPC)		2021 INTERNATIONAL FIRE CODE (IFC) 2015 INTERNATIONAL BUILDING CODE (IBC) 2015 INTERNATIONAL PLUMBING CODE (IPC)			
E	N	Y	Z		PLUMBING CODES		PLUMBING CODES		
ECC EDF EL OR ELVA ES ESP ET ETR EW EWH	ECC ECCENTRIC EDF ELECTRIC DRINKING FOUNTAIN EL OR ELVA ELEVATION ES EMERGENCY SHOWER ESP ELEVATOR SUMP PUMP ET EXPANSION TANK ETR EXISTING TO REMAIN EW EYE WASH EWH ELECTRIC WATER HEATER	N.C. NORMALLY CLOSED NFPA NATIONAL FIRE PROTECTION ASSOCIATION N/C NOT IN CONTRACT NO NORMALLY OPEN NTS NOT TO SCALE	Y YARD, WASTE, WIDTH, WASHER W WITH WO WITHOUT WADG WASTE ANESTHETIC GAS DISPOSAL WB WALL BOX WC WATER CLOSET WCO WALL CLEANOUT WH WALL HYDRANT WM WATER METER WMB WASHER MACHINE BOX PH PHASE PI POST INDICATOR VALVE PLBG PLUMBING PNL PANEL POU POINT-OF-USE PP POLYPROPYLENE PPM PART PER MILLION PRS PRESSURE REDUCING STATION PRV PRESSURE REDUCING VALVE PSF POUNDS PER SQUARE FOOT PSI POUNDS PER SQUARE INCH PSIG POUNDS PER SQUARE INCH GAUGE PVC POLYVINYL CHLORIDE PVDF POLYVINYLIDENE FLUORIDE	2021 INTERNATIONAL FIRE CODE (IFC) 2015 INTERNATIONAL BUILDING CODE (IBC) 2015 INTERNATIONAL PLUMBING CODE (IPC)		2021 INTERNATIONAL FIRE CODE (IFC) 2015 INTERNATIONAL BUILDING CODE (IBC) 2015 INTERNATIONAL PLUMBING CODE (IPC)			
F	O	Z	Z		PLUMBING CODES		PLUMBING CODES		
F FBO FCO FCV FD FDC FEC FH FHC FHR FHV FHT FL FLEX FLR FP FS FT FW	O MEDICAL OXYGEN ON ON CENTER OD OUTSIDE DIAMETER, OVERFLOW DRAIN OS&Y OPEN STEM AND YOLK	W WATT, WASTE, WIDTH, WASHER W WITH WO WITHOUT WADG WASTE ANESTHETIC GAS DISPOSAL WB WALL BOX WC WATER CLOSET WCO WALL CLEANOUT WH WALL HYDRANT WM WATER METER WMB WASHER MACHINE BOX PH PHASE PI POST INDICATOR VALVE PLBG PLUMBING PNL PANEL POU POINT-OF-USE PP POLYPROPYLENE PPM PART PER MILLION PRS PRESSURE REDUCING STATION PRV PRESSURE REDUCING VALVE PSF POUNDS PER SQUARE FOOT PSI POUNDS PER SQUARE INCH PSIG POUNDS PER SQUARE INCH GAUGE PVC POLYVINYL CHLORIDE PVDF POLYVINYLIDENE FLUORIDE	Z ZONE	2021 INTERNATIONAL FIRE CODE (IFC) 2015 INTERNATIONAL BUILDING CODE (IBC) 2015 INTERNATIONAL PLUMBING CODE (IPC)		2021 INTERNATIONAL FIRE CODE (IFC) 2015 INTERNATIONAL BUILDING CODE (IBC) 2015 INTERNATIONAL PLUMBING CODE (IPC)			
G	P	Z	Z		PLUMBING CODES		PLUMBING CODES		
G GA GAL GALV GC GCO GD GI GL GPD GPM GPH GPM GV GW GWH	P PLUMBING CONTRACTOR PH PHASE PI POST INDICATOR VALVE PLBG PLUMBING PNL PANEL POU POINT-OF-USE PP POLYPROPYLENE PPM PART PER MILLION PRS PRESSURE REDUCING STATION PRV PRESSURE REDUCING VALVE PSF POUNDS PER SQUARE FOOT PSI POUNDS PER SQUARE INCH PSIG POUNDS PER SQUARE INCH GAUGE PVC POLYVINYL CHLORIDE PVDF POLYVINYLIDENE FLUORIDE	Z ZONE	2021 INTERNATIONAL FIRE CODE (IFC) 2015 INTERNATIONAL BUILDING CODE (IBC) 2015 INTERNATIONAL PLUMBING CODE (IPC)		2021 INTERNATIONAL FIRE CODE (IFC) 2015 INTERNATIONAL BUILDING CODE (IBC) 2015 INTERNATIONAL PLUMBING CODE (IPC)		2021 INTERNATIONAL FIRE CODE (IFC) 2015 INTERNATIONAL BUILDING CODE (IBC) 2015 INTERNATIONAL PLUMBING CODE (IPC)		



GENERAL NOTES - PLUMBING FIXTURES

- CONTRACTOR TO FIELD VERIFY ELEVATIONS AND DIMENSIONS OF FINISHED FLOORS AND WALLS. TRUE ALL DRAINS, ROUGH-INS AND CARRIERS IN ACCORDANCE WITH WITH PROPOSED ELEVATIONS AND FINISHED SURFACES.
- MOUNTING HEIGHT ELEVATION OF ALL WALL HUNG OR COUNTER MOUNTED FIXTURES SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION OF ROUGH-IN WORK.
- FOR ALL FIXTURES AND EQUIPMENT WITH ASSOCIATED TRIM OR COMPONENT ACCESSORIES PROVIDED UNDER SEPARATE DIVISIONS AND REQUIRING PLUMBING CONNECTIONS, THIS CONTRACTOR SHALL FIELD COORDINATE EXACT REQUIREMENTS OF MAKE PROVISIONS FOR, AND SUPPLY ALL MATERIALS AND LABOR FOR MAKING FINAL CONNECTIONS.
- CONTRACTOR SHALL REFER TO SHOP DRAWINGS OF EQUIPMENT TO BE SUPPLIED FOR FINAL COORDINATION OF ALL ROUGH-IN OPENINGS BEFORE BEGINNING WORK.
- ALL FIXTURE AND EQUIPMENT STUB-OUTS SHALL BE PROVIDED WITH A STOP VALVE. ALL FIXTURE STOPS SHALL BE SOLID BRASS, LOOSE KEY OPERATED, CHROME PLATED (WHERE EXPOSED), AND FITTED TIGHT TO CHROME PLATED BRASS WALL ESCUTCHEON PLATES. SUPPLY RISERS SHALL BE TYPE "L" TUBING, CHROME PLATED. PROVIDE MCGUIRE No. H2165K, 1/2" FIP X, 3/8" OD COMPRESSION FOR ALL SINKS AND LAVATORIES AND SIMILAR FIXTURES AND MCGUIRE No. H2165K 1/2" FIP X 1/2" OD COMPRESSION FOR WATER CLOSETS AND SIMILAR FIXTURES.
- ALL P-TRAPS WITHIN THE BUILDING, ABOVE GRADE AND EXPOSED TO INSPECTION SHALL BE C.P. ADJUSTABLE, CAST BRASS WITH CLEANOUT PLUG. PROVIDE CAST BRASS SLIP NUTS AND WASHERS, 17 GAUGE SEAMLESS TUBULAR BRASS DRAIN TO WALL AND WALL FLANGE. PROVIDE MCGUIRE No. 8872C, 1-1/4" P-TRAP FOR ALL LAVATORIES AND SIMILAR FIXTURES PROVIDE MCGUIRE No. 8812C, 1-1/2" P-TRAP FOR ALL SINKS AND SIMILAR FIXTURES.
- EACH FIXTURE TRAP SHALL HAVE A LIQUID SEAL OF NOT LESS THAN 2 INCHES AND NOT MORE THAN 4 INCHES. EXCEPT WHERE A DEEPER SEAL IS FOUND NECESSARY BY THE AUTHORITY HAVING JURISDICTION.
- ALL ROUGH IN OPENINGS SHALL BE FITTED WITH CHROME PLATED, WROUGHT BRASS DEEP BELL OR BOX ESCUTCHEON PLATES FITTED TIGHT TO THE PIPE AND FLUSH TO THE WALL. STEEL ESCUTCHEON PLATES ARE NOT ACCEPTED.
- ALL EXPOSED BRASS SHALL BE CHROME PLATED.
- ALL HANDICAPPED ACCESSIBLE FIXTURES INDICATED WITH "ADA" SHALL BE PROVIDED OF APPROVED TYPES AND WITH REQUIRED CONTROLS AND INSTALLED TO HEIGHTS AND CLEARANCES, AS PRESCRIBED BY AMERICAN WITH DISABILITIES ACT (ADA). FIXTURES SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL ACCESSIBILITY CODE REQUIREMENTS. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONED MOUNTING HEIGHTS AND SPECIFIED CLEARANCE REQUIREMENTS. PROVIDE FIXTURES WITH DEPTHS AT MAXIMUM PERMITTED AND AVAILABLE FOR INTENDED FIXTURE USE.
- ALL WHEELCHAIR LAVATORY AND SINK PIPING WHERE EXPOSED SHALL BE INSULATED. PROVIDE OFFSET DRAIN FITTINGS WHERE REQUIRED TO PROVIDE MINIMUM CLEARANCES.
- ALL SINKS FOR HANDICAPPED USE SHALL BE STAMPED WITH DRAIN OUTLET AT REAR OF BOWL.
- PLUMBING FIXTURES SHALL BE OF WATER CONSERVATION TYPE IN ACCORDANCE WITH SENATE BILL 587 FOR WATER SAVING PERFORMANCE. LAVATORY AND SINK FAUCETS SHALL INCLUDE 2.2 GPM FLOW CONTROL.
- ORIENT ADA WATER CLOSURE FLUSH VALVE WITH OPERATOR ON LARGE SIDE OF ENCLOSURE.
- SEAL ALL SPACES BETWEEN PLUMBING FIXTURES AND MOUNTING SURFACES WITH WHITE LATEX CAULK WIPED SMOOTH AND FLUSH WITH FIXTURE.
- FLOOR DRAINS SHALL BE INSTALLED AT LOW POINTS OF UNIFORMLY SLOPED FLOOR. CONTRACTOR SHALL FIELD COORDINATE WITH STRUCTURAL TO INSURE FLOORS ARE SLOPED UNIFORMLY ACROSS ENTIRE TOILET ROOMS OR OVER AS WIDE AN AREA AS PRACTICAL FOR OPEN AREA FLOOR DRAINS. CONVEX FLOOR SLOPE IN THE IMMEDIATE VICINITY OF THE FLOOR DRAIN IS NOT ACCEPTABLE.
- PROVIDE AND INSTALL WATER FILTER AT EACH AND EVERY ICE MAKING MACHINE. THIS CONTRACTOR SHALL MAKE FINAL CONNECTIONS FOR EQUIPMENT WITH PLUMBING REQUIREMENTS.
- ALL LAVATORIES, WASHFOUNTAINS, DRINKING FOUNTAINS AND SINKS SHALL HAVE WALL CLEANOUTS.

GENERAL PLUMBING NOTES: (DEMOLITION)

- FIELD VERIFY AS NECESSARY THE EXACT LOCATIONS/ROUTINGS/SIZES OF PLUMBING FIXTURES, PIPING, AND EQUIPMENT TO BE REMOVED OR RE-USED. REFER TO ARCHITECTURAL DRAWINGS FOR CLARIFICATION AS REQUIRED.
- ALL PLUMBING FIXTURES/EQUIPMENT NOT SPECIFICALLY IDENTIFIED FOR REMOVAL SHALL REMAIN. NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES/CONFLICTS FOUND IN THE FIELD.
- UNLESS NOTED OTHERWISE, WHERE FIXTURES ARE TO BE REMOVED: REMOVE FIXTURE, CARRIER, FAUCET/FLUSH VALVE, SUPPLIES/STOPS, TUBULAR BRASS, AND ASSOCIATED PIPING AS DESCRIBED.
- ALL PLUMBING FIXTURES AND/OR EQUIPMENT REMOVED SHALL BE SUBMITTED TO THE OWNER WITH THE OPTION TO BE RE-USED, WHICH SHALL BE SOLEY AT THE DISCRETION OF THE OWNER. ITEMS THE OWNER DOES NOT WISH TO REUSE BUT WISHES TO RETAIN SHALL BE DELIVERED TO STORAGE AS DIRECTED. ITEMS THE OWNER DOES NOT WISH TO REUSE OR RETAIN SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF LEGALLY.
- REMOVE ALL PIPING FROM ABOVE FLOOR TO BELOW ROOF/FLOOR ABOVE WHICH WAS PREVIOUSLY ABANDONED OR WHICH SERVES PLUMBING FIXTURES DESIGNATED FOR REMOVAL. UNLESS NEW FIXTURES ARE TO BE INSTALLED IN THOSE LOCATIONS - REFER TO PLUMBING TO FLOOR PLANS. PRIOR TO ANY REMOVAL, FIELD VERIFY THAT LINES TO BE REMOVED DO NOT SERVE ANY FIXTURES TO REMAIN. CAP REMOVED BRANCH LINES AS CLOSE AS POSSIBLE TO EXISTING MAINS TO REMAIN.
- WHERE SLAB ON GRADE FLOOR DRAINS OR SIMILAR INSTALLATIONS ARE TO BE REMOVED, THE STRAINER AND DRAIN BODY SHALL BE REMOVED. PLUG THE WASTE PIPE WATERTIGHT BELOW FINISHED FLOOR. PATCH AND REFINISH THE FLOOR TO MATCH EXISTING.
- AT PLUMBING WASTE/VENT PIPE PENETRATIONS THROUGH SLAB ON GRADE NO LONGER REQUIRED, PLUG THE PIPES WATERTIGHT BELOW FINISHED FLOOR. PATCH AND REFINISH THE FLOOR TO MATCH EXISTING.
- WHERE WASTE/VENT BRANCH LINES BELOW SLAB ON GRADE ARE PLUGGED AND ABANDONED IN PLACE, THE ABANDONED LINES SHALL REMAIN OTHERWISE SERVICEABLE AND THE REMAINING PIPING SYSTEM SHALL REMAIN INTACT AND FUNCTIONAL.
- WHERE FIXTURES ARE REMOVED, NO NEW FIXTURES ARE TO BE INSTALLED, AND EXISTING VENTS THROUGH ROOF ARE NO LONGER REQUIRED. VENT TERMINALS ARE TO BE COMPLETELY REMOVED UNLESS NOTED OTHERWISE. THE ROOF SHALL BE REPAIRED AND SEALED WATERTIGHT TO MATCH THE EXISTING ROOF SYSTEM.
- IN THE COURSE OF DEMOLITION, ANY PIPING TO REMAIN THAT IS EXPOSED AND FOUND TO BE UNLABELED SHALL BE IDENTIFIED AND LABELED ACCORDINGLY. PROVIDE PIPE MARKERS TO INDICATE TYPE OF SERVICE AND DIRECTION OF FLOW.
- IN THE COURSE OF DEMOLITION, THE CONTRACTOR SHALL ASSIST THE OWNER BY BRINGING TO THE DESIGN TEAM'S ATTENTION ANY EXISTING PLUMBING RELATED ITEMS INTENDED TO REMAIN BUT WHICH ARE FOUND TO BE UNFIT FOR SERVICE OR IN NEED OF REPAIR. THIS SHALL INCLUDE, BUT NOT NECESSARILY BE LIMITED TO, THE FOLLOWING: LEAKING OR DETERIORATED PIPING AND VALVES; IMPROPERLY SLOPED/SUPPORTED OR SAGGING PIPE; MISSING, DAMAGED, OR DETERIORATED INSULATION; CODE REQUIRED BUT MISSING BACKFLOW PREVENTION MEASURES; FIXTURES, FLUSH VALVES, FAUCETS, EQUIPMENT, AND APPURTENANCES NOT FUNCTIONING AS INTENDED.
- IN THE COURSE OF DEMOLITION, THE CONTRACTOR SHALL ASSIST THE OWNER BY BRINGING TO THE DESIGN TEAM'S ATTENTION ANY EXISTING NON-PLENUM RATED PIPING (PVC, ETC.) INTENDED TO REMAIN WHICH IS FOUND IN A RETURN AIR PLENUM SPACE. UNLESS DEEMED UNACCEPTABLE BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) OR OWNER, ALL SUCH PIPING SHALL BE WRAPPED WITH FIRE RESISTANT INSULATION, 3M FIRE BARRIER PLENUM WRAP SA OR PRE-APPROVED EQUAL, THAT HAS BEEN TESTING IN ACCORDANCE WITH ASTM E84 AND UL 910. INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDED METHODS.

GENERAL FIRE PROTECTION NOTES

- MODIFICATIONS TO THE EXISTING FIRE SPRINKLER SYSTEM SHALL BE DESIGNED AND INSTALLED BY A STATE LICENSED FIRE SPRINKLER CONTRACTOR (HEREINAFTER CONTRACTOR) IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA 13 (PREVAILING EDITION) AND ALL AUTHORITIES HAVING JURISDICTION.
- THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF EXISTING SPRINKLER HEADS, PIPING, AND APPURTENANCES AS NECESSARY.
- PROVIDE ALL SPRINKLER HEADS, PIPE, FITTINGS, HANGERS, AND ACCESSORIES AS NECESSARY. ENSURE ANY VALVE SUPERVISORY SWITCHES AND FLOW SWITCHES ARE COORDINATED WITH THE BUILDING FIRE ALARM SYSTEM.
- THE FINAL FIRE SPRINKLER SYSTEM SHALL PROVIDE COMPLETE AUTOMATIC PROTECTION AND COVERAGE AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION AND NFPA 13 (PREVAILING EDITION). THE SPRINKLER SYSTEM MUST ALSO BE APPROVED BY THE OWNER'S FIRE INSURANCE UNDERWRITER.
- THE FIRE SPRINKLER CONTRACTOR SHALL COORDINATE SPRINKLER HEAD LOCATIONS WITH CEILING TILES AND ARCHITECTURAL FINISHES. ALL SPRINKLER HEADS SHALL BE INSTALLED IN CENTER OF CEILING TILES REGARDLESS OF ANY NECESSITY TO PROVIDE ADDITIONAL HEADS TO ACCOMPLISH UNIFORM APPEARANCE OF THE COMPLETED INSTALLATION BY THIS REQUIREMENT. THE CONTRACTOR SHALL MAKE ADJUSTMENTS AS NECESSARY DURING THE SHOP DRAWING PROCESS TO MEET ARCHITECTURAL REVIEW REQUIREMENTS WHILE STILL ENSURING COMPLETE AND COMPLIANT COVERAGE.
- SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL BY THE OWNER'S FIRE INSURANCE UNDERWRITER AND FIRE MARSHAL. THEY SHALL ALSO BE SUBMITTED FOR REVIEW BY THE ARCHITECT AND ENGINEER OF RECORD.
- SPRINKLER SYSTEM SHALL CONTAIN NO SUCH ADDITIONAL VALVES DOWNSTREAM OF THE CONTROL STATION.
- THE SPRINKLER SYSTEM SHALL BE DESIGNED AS REQUIRED TO ACCOMMODATE FIXTURES, PARTITIONS, SOFFITS, FURR DOWNS, CEILING HEIGHTS, OBSTRUCTIONS, ETC.
- REFER TO THE OWNER'S CRITERIA/CONSTRUCTION REQUIREMENTS FOR ADDITIONAL INFORMATION.
- REFER TO THE ARCHITECTURAL CODE ANALYSIS FOR ANY SPECIAL REQUIREMENTS.
- THE EXISTING SPRINKLER SYSTEM SHALL BE FULLY CHARGED AND OPERATIONAL WHEN THE CONTRACTOR IS OFF THE SITE.
- PRIOR TO THE PROPOSED SHUT-DOWN/INTERRUPTION OF ANY EXISTING FIRE PROTECTION SYSTEM, THE CONTRACTOR SHALL ADVISE THE OWNER/OWNER'S APPOINTED REPRESENTATIVE NO LESS THAN 24 HOURS PRIOR. ALL SUCH SERVICE INTERRUPTIONS SHALL BE FULLY COORDINATED.
- THE CONTRACTOR SHALL PERFORM ALL WORK IN A WORKMANLIKE MANNER. UPON COMPLETION OF WORK THE CONTRACTOR SHALL TEST, THEN CONNECT TO THE MAIN SYSTEM. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING THE SYSTEM TO FULL OPERATION.
- ENSURE TO LOCATE THE INSPECTOR'S TEST CONNECTION AT THE END OF THE MOST REMOTE BRANCH LINE FOR EACH SYSTEM.

GENERAL PLUMBING NOTES:

- CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL CODES AND AUTHORITIES HAVING JURISDICTION.
- CONTRACTOR SHALL PROVIDE LABOR AND MATERIALS AS REQUIRED TO MAKE FINAL CONNECTIONS FOR ALL PLUMBING FIXTURES, EQUIPMENT AND RELATED ITEMS PROVIDED UNDER SEPARATE DIVISIONS.
- CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS AND ELEVATIONS OF PROPOSED POINTS OF CONNECTION WITH EXISTING BUILDING PLUMBING UTILITY LINES AND SITE CIVIL LINES PRIOR TO INSTALLATION OF ANY NEW WORK.
- CONTRACTOR SHALL BE RESPONSIBLE TO ALERT ARCHITECT AND ENGINEER OF GRADING CONFLICTS PRIOR TO COMMENCING INSTALLATION OF ANY WORK.
- CONTRACTOR SHALL COORDINATE WITH STRUCTURAL CONDITIONS AS EXISTING AND PROVIDE PROPER PIPING INSTALLATIONS AS REQUIRED WITHOUT DAMAGE TO STRUCTURE. WHERE STRUCTURAL MODIFICATIONS ARE TO BE REQUIRED, CONTRACTOR SHALL FIRST RECEIVE WRITTEN APPROVAL OF THE ARCHITECT AND STRUCTURAL ENGINEER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD COORDINATING LOCATIONS AND ELEVATIONS OF ALL PLUMBING PIPING WITH OTHER TRADES PRIOR TO INSTALLATION. WHERE RELOCATIONS OF NEW WORK ARE REQUIRED TO CORRECT CONFLICTS WITH OTHER TRADES IT SHALL BE DONE AT NO ADDITIONAL COST TO OWNER.
- ALL PIPE PASSING THROUGH FIRE RATED WALLS OR FLOOR SLAB SHALL BE SUPPORTED AT THE PENETRATION AND SHALL BE SEALED WITH APPROVED FIRE STOP MATERIALS AS SPECIFIED AND REQUIRED BY CODE AUTHORITIES HAVING JURISDICTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD COORDINATING ALL PLUMBING PIPING SLEEVE LOCATIONS WITH ALL OTHER TRADES PRIOR TO INSTALLATION OF ANY PIPING OR SUPPORTS.
- DO NOT SCALE PLUMBING DRAWINGS FOR FIELD ROUGH-IN WORK. CONTRACTOR SHALL REFER TO THE DIMENSIONED ARCHITECTURAL AND STRUCTURAL DRAWINGS TO FIELD DETERMINE EXACT LOCATIONS OF ROUGH-IN WORK.
- SANITARY DRAINAGE PIPE 3" AND SMALLER SHALL HAVE A UNIFORM MINIMUM CONTINUOUS SLOPE OF 1/4 INCH PER FOOT OF RUN. DRAINAGE PIPE 4" AND LARGER SHALL SLOPE AT MINIMUM 1/8 INCH PER FOOT OF RUN. SLOPE ALL VENT PIPE MINIMUM 1/4" PER 100 FEET OF RUN.
- STORM DRAINAGE PIPE SHALL HAVE A UNIFORM MINIMUM CONTINUOUS SLOPE OF 1/8 INCH PER FOOT OF RUN. SLOPES OF 1/4 INCH PER FOOT ARE PERMITTED WHERE NOTED ON PLAN OR AS REQUIRED.
- PROVIDE FITTINGS FOR SANITARY DRAIN, WASTE AND WASTE PIPING SYSTEMS OF APPROVED DRAINAGE PATTERN AND LONG OR SHORT RADIUS TYPES AS REQUIRED AND APPROVED FOR USE IN COMPLIANCE WITH PLUMBING CODE REQUIREMENTS.
- PROVIDE CLEANOUTS AT EACH CHANGE OF DRAINLINE DIRECTION GREATER THAN 45° AND IN COMPLIANCE WITH PLUMBING CODE REQUIREMENTS.
- PROVIDE BRACING TO PREVENT AXIAL MOVEMENT FOR ALL DRAINAGE PIPING. PROVIDE RESTRAINTS AT ALL CHANGES IN DIRECTION AND AT ALL DIAMETER CHANGES GREATER THAN TWO PIPE SIZES. BRACES, BLOCKS, RODDING AND OTHER METHODS AS PRESCRIBED BY THE PIPE AND COUPLING MANUFACTURER SHALL BE ACCEPTABLE.
- PROVIDE ISOLATING BALL VALVES FOR ALL BRANCHES OFF DOMESTIC WATER MAINS. ALL PLUMBING SYSTEM VALVES SHALL BE INSTALLED IN ACCESSIBLE CEILING SPACES. WHERE CEILING IS NOT ACCESSIBLE, OR SPACE IS CONFLICTING, VALVES SHALL BE INSTALLED IN PARTITIONS OR PIPE CHASES. PROVIDE MILCOR STYLE "X" PAINTED STEEL HINGED ACCESS PANELS IN LOCATIONS PRE-APPROVED BY THE ARCHITECT.
- ALL HOT WATER AND HOT WATER CIRCULATING PIPING SHALL HAVE 1" THICK FIBERGLASS INSULATION WITH ALL SERVICE JACKET AND SELF SEALING LAP JOINT.
- INSTALL EACH WATER HEATER AND ALL OTHER PLUMBING EQUIPMENT WITH ADEQUATE CLEARANCES FOR ACCESS BY SERVICE PERSONNEL AND WITH PROPER ORIENTATION FOR ELEMENT REMOVALS/REPLACEMENTS.
- THIS CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD COORDINATING LOCATIONS OF ALL SANITARY VENTS UP THROUGH ROOF TO MAINTAIN MINIMUM 25' CLEARANCE TO ANY BUILDING OUTDOOR AIR INLET.
- CONTRACTOR SHALL STERILIZE ALL DOMESTIC WATER PIPING ACCORDING TO AMERICAN WATER WORKS ASSOCIATION (AWWA) SPECIFICATIONS.
- SHOCK ARRESTORS SHALL CONFORM WITH THE REQUIREMENTS OF SSE 1010 AND SHALL BE SIZED AND LOCATED PER PLUMBING AND DRAINAGE INSTITUTE STANDARD WH-201. ACCESS PANELS REQUIRED FOR FIXTURE GROUPS SHALL BE SIZED TO ALLOW SERVICE TO SHOCK ARRESTORS WHERE POSSIBLE. LOCATIONS AND SIZES OF REQUIRED ACCESS PANELS SHALL BE REVIEWED FOR APPROVAL BY THE ARCHITECT PRIOR TO INSTALLATION.
- ALL CAST IRON FITTINGS AND INSTALLATION SHALL COMPLY WITH THE CAST IRON SOIL PIPE INSTITUTE (CISPI) STANDARDS.
- FLASH FLOOR DRAINS IN FLOORS WITH TOPPING OVER FINISHED AREAS WITH 40 MIL PVC MEMBRANE, 10 INCHES CLEAR ON SIDES WITH MINIMUM 36 X 36 INCH SHEET SIZE. FASTEN WATERPROOFING MEMBRANE FLASHING TO DRAIN CLAMP DEVICE.

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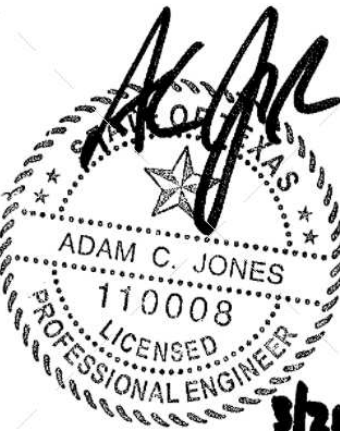


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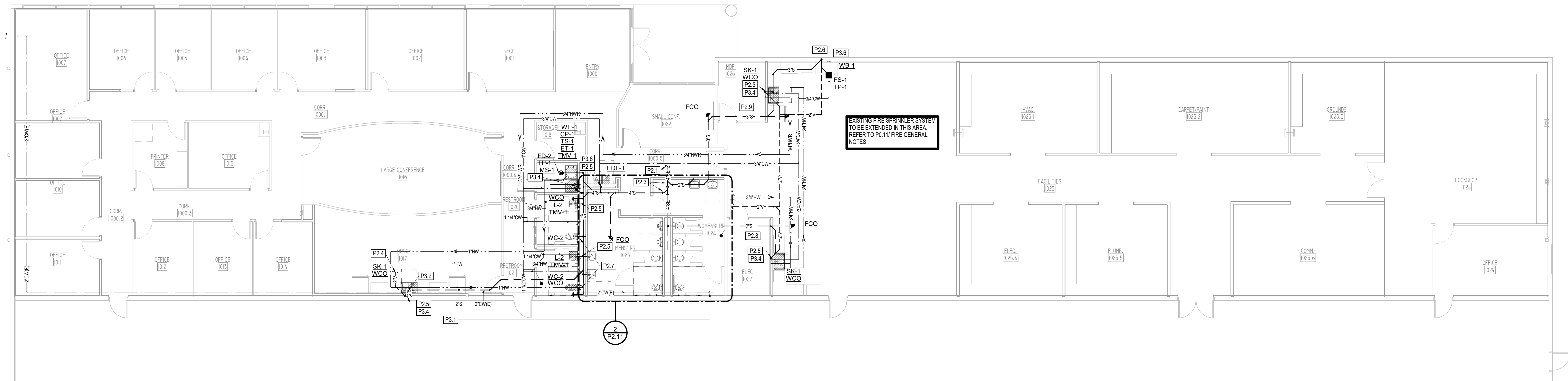
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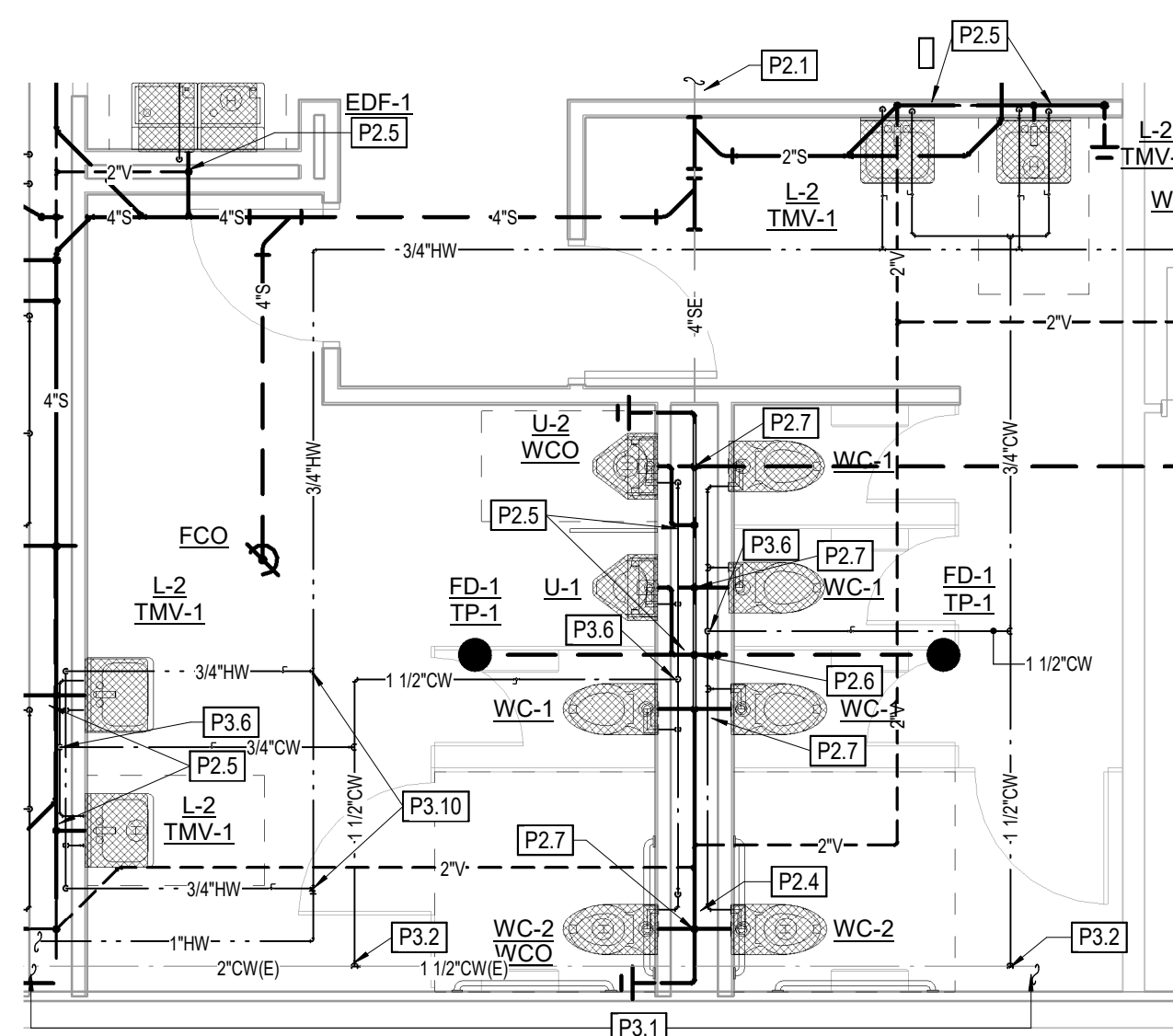
PLUMBING  
GENERAL  
NOTES







1 AREA 'A1' 1ST FLOOR PLUMBING PLAN  
1/8" = 1'-0"



2 ENLARGED RESTROOM PLAN  
1/4" = 1'-0"

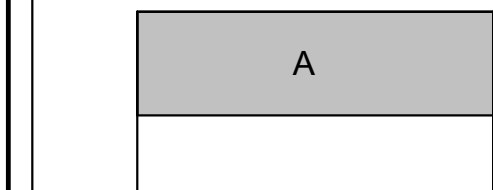
PLUMBING KEYED NOTES

- P2.1 APPROXIMATE LOCATION OF EXISTING SANITARY WASTE LINE BELOW FLOOR. SIZE AS NOTED.
- P2.3 MODIFY AS REQUIRED AND CONNECT NEW SANITARY WASTE BELOW FLOOR TO EXISTING OF EQUAL OR GREATER SIZE.
- P2.4 MODIFY AS REQUIRED AND CONNECT NEW VENT ABOVE CEILING TO EXISTING OF EQUAL OR GREATER SIZE.
- P2.5 2" WASTE DOWN, 2" VENT UP.
- P2.6 3" WASTE DOWN, 2" VENT UP.
- P2.7 4" WASTE DOWN, 2" VENT UP.
- P2.8 CONTRACTOR TO PROTECT ELECTRICAL EQUIPMENT DURING ALL PHASES OF CONSTRUCTION.
- P2.9 CONTRACTOR TO PROTECT MFD/IDF EQUIPMENT DURING ALL PHASES OF CONSTRUCTION.
- P3.1 APPROXIMATE LOCATION OF EXISTING COLD WATER LINE ABOVE CEILING. SIZE AS NOTED.
- P3.2 MODIFY AS REQUIRED AND CONNECT NEW COLD WATER ABOVE CEILING TO EXISTING OF EQUAL OR GREATER SIZE.
- P3.4 DROP AND EXTEND 3/4" HOT AND COLD WATER TO SERVE FIXTURE(S).
- P3.6 DROP AND EXTEND 3/4" COLD WATER TO SERVE FIXTURE(S).
- P3.10 HOT WATER DROP DOWN TO, RISE UP FROM, AND CIRCULATED HOT WATER LINE INSIDE WALL CHASE AND WITHIN 2' OF HOT WATER ROUGH-IN TO LAVATORY FOR 2015 IECC COMPLIANCE. SIZE AS NOTED.

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AREA 'A1' 1ST  
FLOOR  
PLUMBING PLAN



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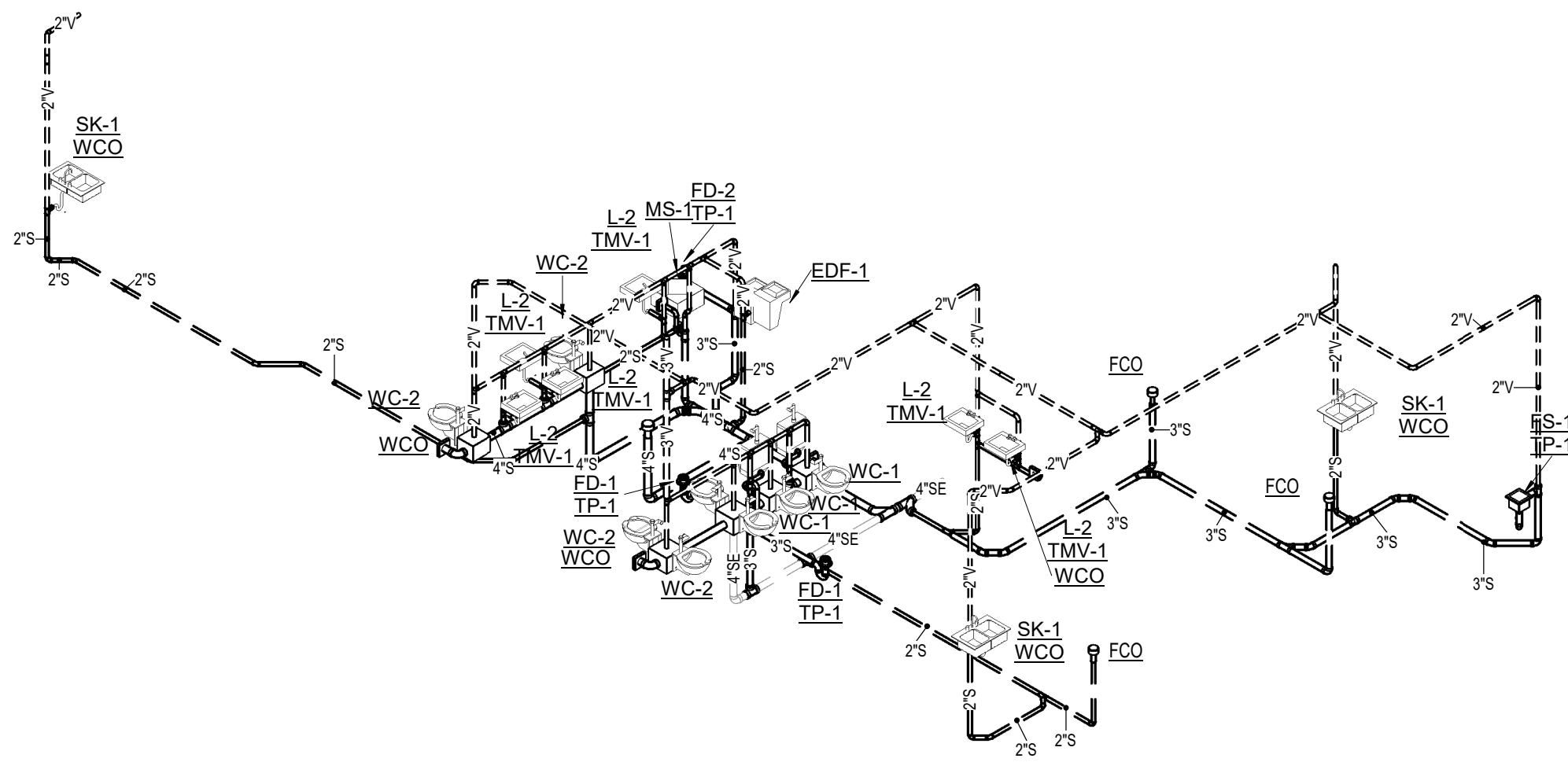
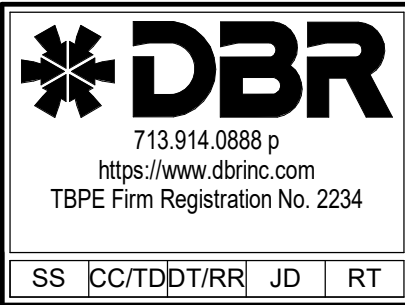


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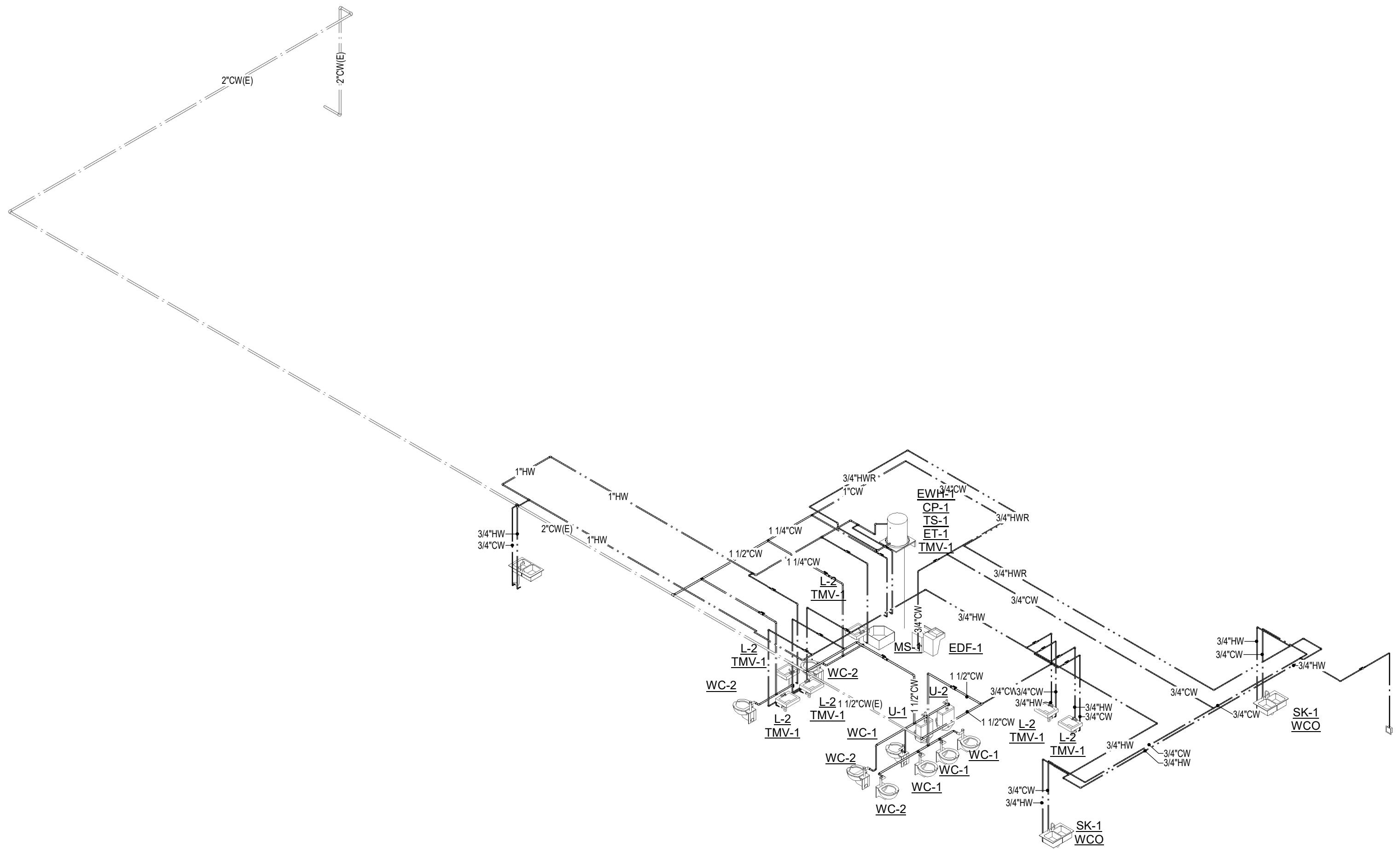
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P4.01

PLUMBING  
RISERS AND  
SCHEMATICS

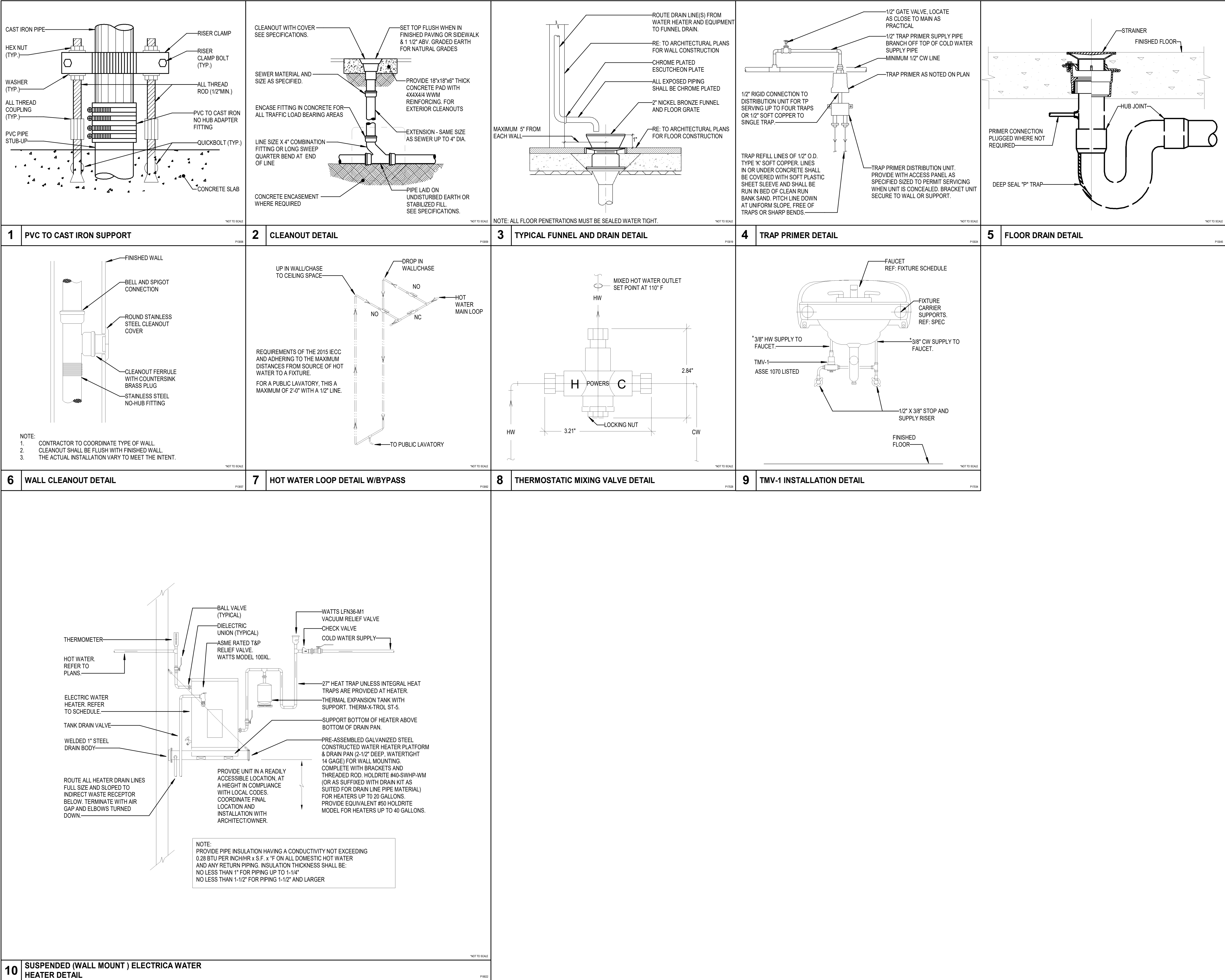


1 RISER - SANITARY & VENT



2 RISER - WATER





PLUMBING FIXTURE SCHEDULE						
PLAN MARK	MINIMUM ROUGH-IN SIZES					DESCRIPTION
	WASTE	VENT	DRAIN	CW	HW	
WATER CLOSET WC-1	4"	2"	4"	1/2"	---	AMERICAN STANDARD No. 2257.101 "AFWALL MILLENIUM FLOWISE" WHITE V.C. ELONGATED SIPHON JET WALL HUNG (1.1 GPF) BOWL WITH TOP SPUD, BEIMS No.16555SCT WHITE OPEN FRONT SEAT LESS COVER AND SLOAN ROYAL No. 11-1.28 FLUSH VALVE AND ZURN OR EQUAL FLOOR MOUNTED CARRIER.
WATER CLOSET WC-2	4"	2"	4"	1/2"	---	AMERICAN STANDARD No. 2257.101 "AFWALL MILLENIUM FLOWISE" SAME AS WC-1 ABOVE EXCEPT WITH MOUNTING HEIGHT REQUIRED FOR ADA USE.
ADA						
LAVATORY L-1	2"	2"	1-1/4"	1/2"	1/2"	AMERICAN STANDARD No. 0355.012 "LUCERNE" WALL HUNG WHITE VC LAVATORY WITH FRONT OVERFLOW, DRILLED FOR CONCEALED ARM AND WITH 4" HOLES PUNCHED. PROVIDE CHICAGO No. 802-VE2805-317ABCP CENTER SET FAUCET WITH VANDAL PROOF WRIST BLADE HANDLES, WITH FIXED GRID STRAINER, OFFSET TAILPIECE, CAST BRASS P-TRAP WITH CO. STOPS, SUPPLIES, PROVIDE ZURN OR EQUAL FLOOR MOUNTED CONCEALED ARM CARRIER, PROVIDE TRU-BRO OR EQUAL INSULATION KIT, TMV-1, REFER TO ARCHITECT FOR EXACT MOUNTING HEIGHTS.
LAVATORY L-2	2"	2"	1-1/4"	1/2"	1/2"	AMERICAN STANDARD No. 0355.012 "LUCERNE" WALL HUNG WHITE VC LAVATORY WITH FRONT OVERFLOW, DRILLED FOR CONCEALED ARM AND WITH 4" HOLES PUNCHED. PROVIDE CHICAGO No. 802-VE2805-317ABCP CENTER SET FAUCET WITH VANDAL PROOF WRIST BLADE HANDLES, WITH FIXED GRID STRAINER, OFFSET TAILPIECE, CAST BRASS P-TRAP WITH CO. STOPS, SUPPLIES, PROVIDE ZURN OR EQUAL FLOOR MOUNTED CONCEALED ARM CARRIER, PROVIDE TRU-BRO OR EQUAL INSULATION KIT, TMV-1, WITH TRM AS REQUIRED FOR ADA USE. REFER TO ARCHITECT FOR EXACT MOUNTING HEIGHTS.
ADA						
WALL BOX WB-1	---	---	---	1/2"	---	GLY GRAY NO. MB1HAAB WITH 1/2 X 1/4 O.D. TUBE, CHROME PLATED FIXTURE SUPPLY STOP. INSTALL BOX 54" AFF BEHIND FREE STANDING REFRIGERATOR WITH ICE MAKER LEAVE 48" COIL OF 1/4" O.D. TYPE 'K' SOFT COPPER FOR EQUIP. CONNECTION AND PROVIDE CUNO ICEASSURE1 FILTER BRACKETED TO WALL.
FLOOR DRAIN FD-1	3"	2"	3"	---	---	ZURN No. ZN-415 CAST IRON DRAIN WITH 6" DIAMETER TYPE 'E' STRAINER AND 1/2" TRAP PRIMER CONNECTION. FOR FLOOR DRAIN BODY POURED IN CONCRETE SLAB PROVIDE ZURN Z1023 TRAP PRIMER EXTENSION.
FLOOR DRAIN FD-2	3"	2"	3"	---	---	ZURN No. ZN-415 CAST IRON DRAIN WITH 6" DIAMETER TYPE 'E' STRAINER WITH 4" DIAMETER FUNNEL AND 1/2" TRAP PRIMER CONNECTION. FOR FLOOR DRAIN BODY POURED IN CONCRETE SLAB PROVIDE ZURN Z1023 TRAP PRIMER EXTENSION.
FLOOR CLEANOUT FCO	---	---	---	---	---	ZURN No. ZS-1400 CAST IRON CLEANOUT EXTRA HEAVY DUTY AND ROUND SCORIATED TOP FOR PURPOSE TRAFFIC AREAS. PROVIDE VARIATION AS REQUIRED FOR FLOOR FINISH WHERE INSTALLED. SEE ARCHITECT DRAWINGS FOR FLOOR TYPE.
WALL CLEANOUT WCO	---	---	---	---	---	ZURN No. ZN-1440 DURO-COATED CAST IRON CLEANOUT TEE WITH COUNTER-SUNK GASKET, WATER TIGHT THREADED PLUG AND ZURN 140 SQUARE ACCESS COVER WITH VANDAL PROOF SCREWS.
ELECTRIC DRINKING FOUNTAIN EDF-1	2"	2"	2"	1/2"	---	ELKAY MODEL LVRCGRN1L8WSK EZN20 BOTTLE FILLING STATION & B-LEVEL HIGH EFFICIENCY VANDALRESISTANT COOLER FILTERED REFRIGERATED STAINLESS. CHILLING CAPACITY OF 8.0 GPH (GALLONS PER HOUR) OF 50° F DRINKING WATER, BASED ON 80° F INLET WATER AND 90° F AMBIENT. PER ASHRAE 18 TESTING. FEATURES SHALL INCLUDE ANTIMICROBIAL, FILTERED, GREEN TICKER, HANDS FREE, HIGH EFFICIENCY, LAMINAR FLOW, REAR DRAIN, VANDAL RESISTANT, VISUAL FILTER MONITOR, FURNISHED WITH VANDAL RESISTANT STREAMSAVER™ BUBBLER, ELECTRONIC BOTTLE FILLER SENSOR WITH MECHANICAL FRONT BUBBLER BUTTON ACTIVATION, PRODUCT SHALL BE WALL MOUNT (ON WALL). FOR INDOOR APPLICATIONS, SERVING 2 STATIONS, UNIT SHALL BE CERTIFIED TO UL 599 AND CAN/CSA C22.2 NO. 120.
FLOOR SINK FS-1	3"	2"	3"	---	---	ZURN No. ZN-1903.2-25-4. 12" SQUARE, 10" DEEP CAST IRON DRAIN WITH ENAMELED INTERIOR, SEDIMENT BUCKET STRAINER AND SECURED HALF NICKEL BRONZE GRATE, FOR FLOOR DRAIN BODY POURED IN CONCRETE SLAB.

PLUMBING EQUIPMENT SCHEDULE						
PLAN MARK	MINIMUM ROUGH-IN SIZES					DESCRIPTION
	WASTE	VENT	DRAIN	CW	HW	
ELECTRIC WATER HEATER EWH-1	---	---	---	3/4"	3/4"	AO SMITH MODEL DEL-30, 29 GALLON STORAGE TANK, UNIT CAPABLE OF 23 GPH RECOVERY AT 80° F TEMPERATURE RISE WIRED AT 208V/1PH WITH 4.5 KW INPUT, PROVIDE ASME TEMPERATURE AND PRESSURE RELIEF VALVE, AND DIAL THERMOMETER IN HW OUTLET PIPING, COORDINATE WITH ELECTRICAL CONTRACTOR FOR FINAL CONNECTION.
THERMAL EXPANSION TANK ET-1	---	---	---	3/4"	---	AMTROL THERM-X-TROL MODEL ST-S-C, ASME THERMAL EXPANSION ABSORBERS, MAXIMUM WORKING PRESSURE 150 PSIG, TOTAL VOLUME 2.1 GALLONS.
CIRCULATION PUMP CP-1	---	---	---	---	3/4"	GRUNDFOS ALPHA1 15-55FLC PUMP, 1/6 HP WIRED WIRED FOR 115V SINGLE PHASE POWER, SEE ELECTRICAL DRAWINGS AND FITTED WITH REMOTE HEAT SENSING AQUASTAT CONTROLLER, CONTROLLED BY ELECTRICAL CONTRACTOR, REFER TO ELECTRICAL PLANS.
TIME SWITCH TS-1	---	---	---	---	---	INTERMATIC DIGITAL 24 HOUR TIME SWITCH WITH BATTERY BACK-UP, INSTALL ON ADJACENT TO CIRCULATION PUMP, COORDINATE WITH ELECTRICAL, REFER TO ELECTRICAL PLANS.
THERMOSTATIC MIXING VALVE TMV-1	---	---	---	1/2"	1/2"	POWERS HYDROGUARD LFE-480 1/2" NTP THERMOSTATIC MIXING VALVE, ASSE 1070, LAVATORY USE MIXING VALVE WITH INLET CHECK STOPS TO LIMIT HOT WATER TEMPERATURE TO 105°F.

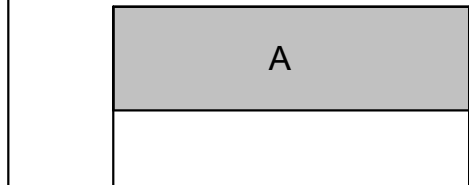
PLUMBING PIPE MATERIALS SCHEDULE	
PIPING SYSTEM	PIPING MATERIAL
SANITARY SOIL, WASTE AND VENT PIPING BELOW GRADE	SCHEDULE 40 PVC
SANITARY SOIL, WASTE AND VENT PIPING ABOVE GRADE	CAST IRON NO-HUB
DOMESTIC WATER PIPING ABOVE GRADE	COPPER, TYPE "L", HARD DRAWN
FIRE SPRINKLER PIPING ABOVE GROUND 2" AND SMALLER	BLACK STEEL SCHEDULE 40
FIRE SPRINKLER PIPING ABOVE GROUND 2" AND LARGER	BLACK STEEL SCHEDULE 10

SHOCK ARRESTOR SCHEDULE			
P.D.I. SYMBOLS:	FIXTURE UNITS:	THREADED CONNECTION	CERTIFICATION
A	1 - 11	1/2"	ASSE 1010
B	12 - 32	3/4"	ASSE 1010
C	33 - 60	1"	ASSE 1010
D	61 - 113	1"	ASSE 1010
E	114 - 154	1"	ASSE 1010
F	155 - 330	1"	ASSE 1010



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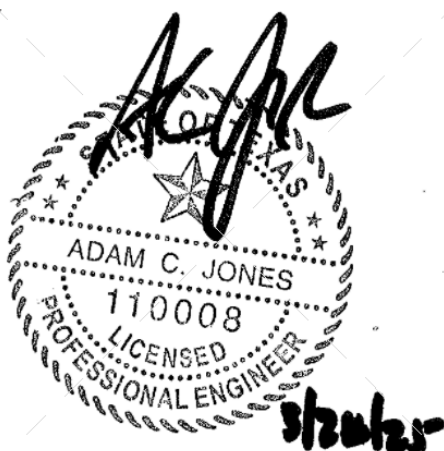


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P5.01  
PLUMBING SCHEDULES



GROUP	TECHNOLOGY LEGEND	
	SYMBOL	DESCRIPTION
DEVICES		INDICATES THE LOCATION OF A NEW TECHNOLOGY OUTLET. CONTRACTOR TO PROVIDE FACEPLATE WITH A MINIMUM OF 4-PORTS AT EACH LOCATION UNLESS OTHERWISE NOTED. ELECTRICAL CONTRACTOR TO PROVIDE A DOUBLE GANG BACK BOX WITH A SINGLE GANG REDUCER RING AND A 1" EMT CONDUIT FROM THE BOX TO THE NEAREST ACCESSIBLE CEILING. SOME EXISTING BUILDINGS MAY REQUIRE SURFACE MOUNTED RACEWAY. ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL RACEWAY AS SPECIFIED AND DESIGNATE IN THE ELECTRICAL CONTRACT DOCUMENTS. SYSTEM INSTALLER TO PROVIDE AND INSTALL A PLASTIC PROTECTIVE BUSHING, ON EACH CONDUIT SUB-OUT, TO PREVENT CABLE DAMAGE.
		INDICATES THE LOCATION OF A FLOOR MOUNTED TECHNOLOGY OUTLET. ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL A FLOOR BOX WITH (1) 1" CONDUIT PER EVERY (6) CABLES INSTALLED. ALL CONDUITS SHALL ROUT FROM THE FLOOR BOX, DIRECTLY TO THE WALL INDICATED AND STUB-UP INTO THE NEAREST ACCESSIBLE PLENUM CEILING.
		INDICATES THE LOCATION OF A CEILING MOUNTED OUTLET. CONTRACTOR SHALL MOUNT THIS OUTLET AT 12" ABOVE THE CEILING AND COORDINATE ALL FINAL LOCATIONS WITH OTHER TRADES ON THE PROJECT TO VERIFY THAT THE LOCATION OF THE OUTLET MAINTAINS 12" OF CLEARANCE FROM THE FRONT OF THE FACEPLATE FOR OWNER ACCESS. ELECTRICAL CONTRACTOR SHALL ROUTE (1) 1" CONDUIT FROM THE BUILDING STRUCTURE TO A SINGLE GANG BACK BOX MOUNTED AT 5' OR LESS ABOVE THE FINISHED CEILING. SECURE CONDUIT AND BACK BOX TO INSURE MINIMAL SWAY MOVEMENT.
		DESIGNATES THAT THE ASSOCIATED TECHNOLOGY OUTLET IS INTENDED FOR THE USE OF A NETWORK CONNECTION. THE "N" SHALL BE REPLACED WITH NUMERIC TEXT THAT IDENTIFIES THE TOTAL NUMBER OF CATEGORY 6 NETWORK CABLES THAT ARE TO BE INSTALLED AT THE TECHNOLOGY OUTLET LOCATION. CONTRACTOR TO PROVIDE AND INSTALL CATEGORY 6 NETWORK CABLES, CATEGORY 6 CONNECTORS, STAINLESS STEEL FACEPLATES WITH IDENTIFICATION WINDOWS, LABELS, BLANK INSERTS, AND ANY OTHER MATERIALS REQUIRED TO FURNISH A COMPLETE FUNCTIONAL AND TESTED OUTLET LOCATION. ALL FACEPLATES PROVIDED SHALL CONTAIN A MINIMUM 4-PORTS AND SHALL BE APPROPRIATELY SIZED TO ACCOMMODATE THE NUMBER OF CIRCUITS BEING INSTALLED AT THIS TECHNOLOGY OUTLET LOCATION. MAXIMUM OF SIX(6) DATA CABLES PER OUTLET.

DEVICES		DESIGNATES THAT THE ASSOCIATED TECHNOLOGY OUTLET IS INTENDED FOR THE USE OF A WALL MOUNTED TELEPHONE CONNECTION. CONTRACTOR TO PROVIDE AND INSTALL: (1) CATEGORY 6 NETWORK CABLE, (1) CATEGORY 6 CONNECTOR, STAINLESS STEEL WALL TELEPHONE FACEPLATE, LABELS, AND ANY OTHER MATERIALS REQUIRED TO FURNISH A COMPLETE FUNCTIONAL AND TESTED CIRCUIT AT EACH LOCATION SHOWN. CONTRACTOR SHALL MOUNT THIS OUTLET AT 42" AFF AND COORDINATE ALL FINAL LOCATIONS WITH OTHER TRADES ON THE PROJECT TO VERIFY THAT THE LOCATION OF THE OUTLET MAINTAINS 12" OF CLEARANCE ON ALL FOUR SIDES OF THE BACK BOX. OUTLETS SHALL REMAIN CLEAR OF ROOM DOORS, CABINET DOORS, APPLANCE DOORS, AND SLIDING DRAWERS.
		DESIGNATES THAT THE ASSOCIATED TECHNOLOGY OUTLET IS INTENDED FOR THE USE OF A WIRELESS ACCESS POINT CONNECTION. CONTRACTOR TO PROVIDE AND INSTALL: (1) CATEGORY 6 NETWORK CABLE, (1) CATEGORY 6 CONNECTOR, STAINLESS STEEL FACEPLATE WITH IDENTIFICATION WINDOWS, LABELS, AND ANY OTHER MATERIALS REQUIRED TO FURNISH A COMPLETE FUNCTIONAL AND TESTED CIRCUIT AT EACH LOCATION SHOWN. REFERENCE SPECIFICATIONS FOR PATCH CABLE REQUIREMENTS.
		INDICATES THE LOCATION OF AN IP VIDEO SURVEILLANCE CAMERA. CONTRACTOR TO PROVIDE AND INSTALL CATEGORY 6 NETWORK CABLES, CATEGORY 6 CONNECTORS, STAINLESS STEEL FACEPLATES WITH IDENTIFICATION WINDOWS, LABELS, BLANK INSERTS, AND ANY OTHER MATERIALS REQUIRED TO FURNISH A COMPLETE FUNCTIONAL AND TESTED OUTLET LOCATION. ALL FACEPLATES PROVIDED SHALL BE APPROPRIATELY SIZED TO ACCOMMODATE THE NUMBER OF CIRCUITS BEING INSTALLED AT THIS OUTLET LOCATION. REFERENCE SPECIFICATIONS FOR PATCH CABLE REQUIREMENTS.
		INDICATES THAT THE ASSOCIATED TECHNOLOGY OUTLET IS INTENDED FOR FUTURE USE. CONTRACTOR TO PROVIDE STAINLESS STEEL, SINGLE-GANG WALL PLATE AT ALL LOCATIONS.

NOTES:  
REFERENCE TECHNOLOGY GENERAL NOTES, PLAN KEYED NOTES, AND ALL OTHER SYSTEM LEGENDS. NOTES. THE STRUCTURED CABLING SYSTEM CONTRACTOR SHALL PROVIDE AND INSTALL CATEGORY 6 CABLE TO ALL SYSTEMS EQUIPMENT REQUIRING NETWORK CONNECTIVITY.

GROUP	VIDEO SURVEILLANCE LEGEND	
	SYMBOL	DESCRIPTION
DEVICES		INTERIOR VIDEO SURVEILLANCE CAMERA
		VANDAL RESISTANT, WEATHER PROOF, EXTERIOR SECURITY CAMERA
		VIDEO RECORDING SERVER. REFERENCE SPECIFICATIONS FOR INFORMATION CONCERNING ANALOG OR IP BASED TYPE SYSTEM.
		INDICATES THE LOCATION OF A VIDEO SURVEILLANCE MAN
NOTES:	1. REFERENCE VIDEO SURVEILLANCE SCHEDULE AND DIVISION 28 SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS	

GROUP	INTRUSION DETECTION LEGEND	
	SYMBOL	DESCRIPTION
DEVICES		DESIGNATES THE LOCATION OF THE INTRUSION DETECTION SYSTEM, CONTROL PANEL, ELECTRICAL CONTRACTOR TO PROVIDE 120V POWER TO PANEL
		FLUSH MOUNTED MAGNETIC DOOR CONTACT
		SURFACE MOUNTED MAGNETIC DOOR CONTACT
		OVERHEAD DOOR, SURFACE MOUNTED DOOR CONTACT
		INTRUSION DETECTION SYSTEM ARM/DISMARM KEYPAD
		STANDARD RANGE WALL MOUNTED MOTION DETECTOR
		MEDIUM RANGE WALL MOUNTED MOTION DETECTOR
		LONG RANGE WALL MOUNTED MOTION DETECTOR
		CEILING MOUNTED, 360° MOTION DETECTOR
		RELAY/MONITOR MODULE
		DURESS BUTTON
		WIRELESS SECURITY RECEIVER. ELECTRICAL CONTRACTOR TO PROVIDE ONE (1) SINGLE GANG BACK BOX WITH A 1" CONDUIT ROUTING TO THE NEAREST ACCESSIBLE CEILING. MOUNT AT 12" BELOW THE FINISHED CEILING, BUT DO NOT EXCEED 12'-0" AFF.
		CEILING MOUNTED GLASS BREAK DETECTOR
NOTES:	1. REFERENCE ACCESS CONTROL, SCHEDULE, DIVISION 8 AND DIVISION 28 SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS	

GROUP	ACCESS CONTROL LEGEND	
	SYMBOL	DESCRIPTION
DEVICES		WALL OR MULLION MOUNTED ACCESS CONTROL PROXIMITY CARD READER
		ACCESS CONTROL PROXIMITY CARD READER THAT IS INTEGRATED INTO THE DOOR HARDWARE
		DOOR RELEASE BUTTON
		MOTION REQUEST TO EXIT DEVICE
		DESIGNATES THE LOCATION OF THE ACCESS CONTROL SYSTEM, CONTROL PANEL. ELECTRICAL CONTRACTOR TO PROVIDE 120V POWER TO PANEL, PROVIDE NETWORK CABLE TO PANEL AND COORDINATE WITH THE OWNER'S TECHNOLOGY DEPARTMENT ON ACQUIRING AN IP ADDRESS.
		WALL OR MULLION MOUNTED, 2-WAY AUDIO/VIDEO INTERCOM DOOR STATION.
		DOOR MOUNTED, 2-WAY AUDIO/VIDEO INTERCOM DOOR STATION.
		2-WAY AUDIO/VIDEO INTERCOM MASTER STATION.
		ADA AUTO DOOR OPEN BUTTON. SHOWN FOR REFERENCE ONLY. BUTTON AND AUTO DOOR OPERATOR PROVIDED AND INSTALLED BY THE DOOR SYSTEM INSTALLER.
		AUTO DOOR OPERATOR. OPERATOR TO BE PROVIDED AND INSTALLED BY THE DOOR SYSTEM INSTALLER.
NOTES:	1. REFERENCE ACCESS CONTROL, SCHEDULE, DETAILS, AND DIVISION 28 SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS	

GROUP	AUDIO/VIDEO LEGEND	
	SYMBOL	DESCRIPTION
DEVICES		INDICATES THE LOCATION OF A VIDEO PROJECTOR & TO BE REPLACED WITH "C" OR "W". "C" INDICATES THAT THE DEVICE IS A CEILING MOUNTED DEVICE AND "W" INDICATES IT IS TO BE WALL MOUNTED. CONTRACTOR TO PROVIDE AND INSTALL A PROJECTOR, CEILING OR WALL MOUNTING KIT, AND PATCH CABLES AS REQUIRED TO CONNECT AT BOTH ENDS.
		INDICATES THAT THE DESIGNATED TECHNOLOGY OUTLET IS INTENDED FOR AN AUDIO/VIDEO (AV) INPUT. CONTRACTOR TO PROVIDE AND INSTALL A FLOOR MOUNTED OR WALL MOUNTED BOX AS INDICATED. (2) 1/2" CONDUITS FROM THE BOX TO THE NEAREST, PLENUM ACCESSIBLE CEILING WITHIN THE SAME ROOM. ALL FLOOR AND WALL MOUNTED BOXES SHALL BE A MINIMUM OF 2-GANGS.
		"F" WHEN REPLACED WITH A "1" (AV-1) ONLY, THE OUTLET SHALL BE A STANDALONE, LOCAL INPUT TIED TO A LOCAL VIDEO DISPLAY (FSD, CMP, NMP, AV-2, ETC.). THIS OUTLET WILL NOT BE ASSOCIATED WITH ANY SYSTEM FOR ROUTING TO DISPLAYS LOCATED IN ANY OTHER PORTION OF THE PROJECT. IF NOT REPLACED WITH A "1" SEE THE NOTES AT THE BOTTOM OF THE LEGEND FOR ADDITIONAL INSTRUCTIONS.
		INDICATES THE LOCATION OF A FLAT PANEL VIDEO DISPLAY. CONTRACTOR TO PROVIDE AND INSTALL TWO (2) CATEGORY 6 UTP NETWORK CABLE TO ALL LOCATIONS SHOWN ON THE ENTIRE PROJECT.

"F" - WHEN REPLACED WITH "1" (FSD-1) ONLY, THE OUTLET SHALL BE A STANDALONE AND ONLY HAVE THE CATEGORY 6 CABLE ROUTED TO IT. FROM THE MDIF/IF SERVING THE DEVICES AREA ROOM.

"F" - WHEN REPLACED WITH "2" (FSD-2) ONLY, THE OUTLET SHALL HAVE THE CATEGORY 6 CABLE ROUTED TO IT, FROM THE MDIF/IF SERVING THE DEVICES AREA, AND THE CABLING FROM THE ASSOCIATED AV-1.

EACH FSD OUTLET SHALL BE A 2-GANG BOX AND TWO (2) 1/2" CONDUITS STUBBING INTO THE ROOMS ACCESSIBLE CEILING. PROVIDE ONE DOUBLE-GANG FACEPLATE WITH TWO (2) DECORA PORTS. PROVIDE A DECORA STYLE INSERT THAT ACCEPTS THE STYLE OF DATA JACK BEING USED FOR STRUCTURED CABLING. WHEN THERE IS A LOCAL AV INPUT ASSOCIATED WITH THE DISPLAY, PROVIDE A DECORA INSERT THAT CONFORMS WITH THE SYSTEMS SPECIFIED. OTHERWISE PROVIDE A BLANK INSERT IN THE SECOND PORT.

INDICATES THE LOCATION OF A FLAT PANEL VIDEO DISPLAY. CONTRACTOR TO PROVIDE AND INSTALL TWO (2) CATEGORY 6 UTP NETWORK CABLE TO ALL LOCATIONS SHOWN ON THE ENTIRE PROJECT.

INDICATES THE LOCATION OF A USB INPUT PLATE THAT SHALL TRANSMIT USB SIGNAL TO THE ASSOCIATED USB OUTPUT PLATE. RACEWAY SHALL CONSIST OF ONE (1) 1" CONDUIT AND A SINGLE GANG BACK BOX.

INDICATES THE LOCATION OF A USB OUTPUT PLATE THAT SHALL RECEIVE USB SIGNAL FROM THE USB ASSOCIATED INPUT PLATE. RACEWAY SHALL CONSIST OF ONE (1) 1" CONDUIT AND A SINGLE GANG BACK BOX.

INDICATES THE LOCATION OF A LOCAL SOUND REINFORCEMENT/PRESENTATION SPEAKER

"S" - WHEN REPLACED WITH "N", THE SPEAKER SHALL BE FOR LOCAL INSTRUCTIONAL, PRESENTATION AUDIO AND POWERED BY THE SPECIFIED CLASSROOM PRESENTATION AMPLIFIER.

"S" - WHEN REPLACED WITH "SM", THE SPEAKER SHALL BE DEDICATED TO A SPEECH PRIVACY/SOUND MASKING SYSTEM.

INDICATES THE LOCATION OF AN AUDIO/VIDEO CONTROL PLATE. RACEWAY SHALL CONSIST OF ONE (1) A BACK BOX WITH A 1" CONDUIT ROUTING INTO THE ACCESSIBLE CEILING SPACE WITHIN THE SAME ROOM. AV SYSTEM INSTALLER TO COORDINATE THE CONTROL BACK BOX SIZE REQUIREMENT WITH THE PROJECT'S ELECTRICAL CONTRACTOR.

NOTES:  
A. IN THE EVENT THAT "F" IS NOT DEFINED IN THE OUTLET DESCRIPTION, THE DEVICE SHALL BE CONSIDERED A STANDALONE DEVICE, SERVING THE SYSTEM WITHIN THE SAME SPACE OR THE FOLLOWING SHALL APPLY:  
"F" - UNLESS SPECIFICALLY NOTED OTHERWISE, THE FOLLOWING SHALL APPLY TO EACH DEVICE SHOWN ON THE ENTIRE PROJECT:  
"1" SHALL BE REPLACED WITH ALPHABETICAL CHARACTERS THAT SHALL INDICATE THE SPECIFIC VENUE THAT THE DEVICE IS ASSOCIATED WITH.  
"S" SHALL BE REPLACED WITH A NUMERIC VALUE THAT SHALL IDENTIFY THE SPECIFIC DEVICE WITHIN THE SPECIFIC VENUE.  
B. THE AUDIO/VIDEO SYSTEM INTEGRATOR SHALL COORDINATE ALL BOX AND CONDUIT SIZE REQUIREMENTS PRIOR TO ROUGH-IN BY THE PROJECT'S ELECTRICAL CONTRACTOR.  
C. REFERENCE SCOPE MATRIX AND PROJECT SPECIFICATIONS FOR INSTRUCTIONS REGARDING THE PROVIDING AND INSTALLATION OF VIDEO DISPLAYS, PROJECTORS, SCREENS, MOUNTS, AND LIFTS.

TEXT	TYPICAL SUBSCRIPTS LEGEND	
	TEXT	DESCRIPTION
DEVICES		INDICATES THAT THE DESIGNATED DEVICE IS TO BE WALL MOUNTED AT SPECIFIED HEIGHT OR IN COMPLIANCE WITH CODE REQUIREMENTS. ALL WALL MOUNTED HEIGHTS ARE TO BE CONFIRMED WITH THE PROJECT'S ARCHITECT PRIOR TO ROUGH-IN.
		INDICATES THAT THE DESIGNATED DEVICE SHALL BE WEATHER PROOF AND RATED FOR EXTERIOR CONDITIONS INSTALLATION.
		INDICATES THAT THE DESIGNATED DEVICE IS TO BE INSTALLED ABOVE THE COUNTERTOP. A NUMERIC VALUE SHALL REPLACE THE "F" SYMBOL AND SHALL DESIGNATE THE SPECIFIC HEIGHT ABOVE COUNTERTOP. ALL HEIGHTS ARE TO BE CONFIRMED WITH THE PROJECT'S ARCHITECT PRIOR TO ROUGH-IN.
		INDICATES THAT THE DESIGNATED DEVICE IS TO BE INSTALLED ABOVE THE FINISHED FLOOR. A NUMERIC VALUE SHALL REPLACE THE "F" SYMBOL AND SHALL DESIGNATE THE SPECIFIC HEIGHT ABOVE FINISHED FLOOR. ALL HEIGHTS ARE TO BE CONFIRMED WITH THE PROJECT'S ARCHITECT PRIOR TO ROUGH-IN.

INDICATES THAT THE DESIGNATED DEVICE IS TO BE SURFACE MOUNTED. CONTRACTOR TO PROVIDE ALL MATERIALS REQUIRED FOR A COMPLETE, SURFACE MOUNTED SOLUTION. ALL SURFACE MOUNTED PRODUCTS SHALL BE APPROVED BY THE PROJECTS ARCHITECT PRIOR TO PROCUREMENT AND/OR INSTALLATION.

INDICATES THAT THE DESIGNATED DEVICE IS TO BE MOUNTED ON THE UNDERSIDE OF THE ELEVATED CANOPY.

INDICATES THAT THE DESIGNATED DEVICE IS TO BE INSTALLED UNDER A RAISED FLOOR SYSTEM.

INDICATES THAT THE DESIGNATED DEVICE IS TO BE CORNER MOUNTED AT SPECIFIED HEIGHT. ALL WALL MOUNTED HEIGHTS ARE TO BE CONFIRMED WITH THE PROJECT'S ARCHITECT PRIOR TO ROUGH-IN.

GENERAL NOTES

1. ALL 120V POWER REQUIRED FOR THE FUNCTIONALITY OF EACH SYSTEM SHALL BE A DEDICATED CIRCUIT AND ON EMERGENCY POWER WHEN AVAILABLE. PROJECTS ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER TO MAIN CONTROL PANELS, REMOTE POWER SUPPLIES AND ALL HEAD END EQUIPMENT. SYSTEM INSTALLERS SHALL COORDINATE LOCATIONS AND CONNECTIONS WITH THE PROJECT'S ELECTRICAL CONTRACTOR.

2. THE PROJECT'S ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL IN CONDUITS, BACK BOXES, JUNCTION BOXES, RACEWAYS, AND SLEEVES REQUIRED TO ESTABLISH CLEAR PATHWAYS FOR ALL SYSTEMS. ALL CONDUITS, SLEEVES, BOXES, AND RACEWAYS SHALL BE PROPERLY SIZED TO MAINTAIN A 40% MAXIMUM FILL RATIO.

3. ALL EXPOSED SYSTEMS WIRING OR WIRING ROUTING ACROSS NON ACCESSIBLE CEILINGS SHALL BE ROUTED IN CONDUIT, PROVIDED AND INSTALLED BY THE PROJECT'S ELECTRICAL CONTRACTOR. SIZE CONDUIT AS REQUIRED TO ROUTE SYSTEMS WITH 40% CABLE FILL RATIO. MINIMUM CONDUIT SIZE SHALL BE 3/4".

4. EACH SYSTEM INSTALLER SHALL BE RESPONSIBLE FOR ENSURING ALL EXTERIOR WALL PENETRATIONS ARE PROPERLY SEALED TO PREVENT ANY MOISTURE FROM ENTERING BUILDING.

5. NO CONDUITS SHALL BE INSTALLED ON THE EXTERIOR OF THE BUILDING. IF EXTERIOR CONDUITS ARE REQUIRED FOR A COMPLETE INSTALLATION, EACH SYSTEM CONTRACTOR SHALL COORDINATE WITH THE PROJECTS CONSULTANT PRIOR TO ANY ROUGH-IN.

6. EACH SYSTEM INSTALLER SHALL PROVIDE AND INSTALL PROTECTIVE BUSHINGS ON ALL CONDUIT STUB OUTS AND SLEEVES TO PREVENT CABLE DAMAGE. BUSHING TO BE INSTALLED PRIOR TO CABLE INSTALLATION. CUTTING BUSHING AND INSTALLING AFTER CABLE IS INSTALLED WILL NOT BE EXCEPTED.

ALL CABLE SHALL BE ROUTED DOWN CORRIDORS, PARALLEL AND PERPENDICULAR TO THE BUILDING WALLS AND STRUCTURE. CABLE TO EACH DEVICE SHALL BRANCH OFF OF A MAIN CORRIDOR TRUNK. ROUTING CABLES THROUGH CLASSROOMS, OFFICES, STORAGE ROOMS, RESTROOMS OR ANY TYPE OF ROOM OTHER THAN A CORRIDOR WILL NOT BE ACCEPTED. ENTER ALL ROOMS ABOVE THE ASSOCIATED ROOM DOORWAY.

LOCAL SOUND SYSTEM LEGEND

VENUE SPECIFIC LOCAL SOUND SYSTEM SPEAKER. "S" TO BE REPLACED WITH ALPHANUMERIC TEXT INDICATING THE ASSOCIATED VENUE AND SPEAKER NUMBER.

VENUE SPECIFIC LOCAL SOUND SYSTEM CONTROL PLATE. "M" TO BE REPLACED WITH ALPHANUMERIC TEXT INDICATING THE ASSOCIATED VENUE AND CONTROL PLATE NUMBER.

VENUE SPECIFIC LOCAL SOUND SYSTEM MICROPHONE INPUT. "I" TO BE REPLACED WITH ALPHANUMERIC TEXT INDICATING THE ASSOCIATED VENUE AND MIC INPUT NUMBER.

VENUE SPECIFIC LOCAL SOUND SYSTEM HANGING MICROPHONE. "H" TO BE REPLACED WITH ALPHANUMERIC TEXT INDICATING THE ASSOCIATED VENUE AND MIC NUMBER.

VENUE SPECIFIC LOCAL SOUND SYSTEM 3.5MM AUXILIARY INPUT AND BLUETOOTH MIXER. "M" TO BE REPLACED WITH ALPHANUMERIC TEXT INDICATING THE ASSOCIATED VENUE AND MIXER NUMBER. CONTRACTOR TO PROVIDE AND INSTALL A RECESSED ENCLOSURE WITH FLUSH MOUNTED, LOCKABLE DOOR. DEVICE TO BE MOUNTED AT 42" AFF.

INDICATED THE LOCATION OF THE VENUE SPECIFIC LOCAL SOUND SYSTEM HEAD END RACK, AMPLIFIERS, DSPS, AND ALL OTHER HEAD END EQUIPMENT SHALL BE INSTALLED IN THIS RACK/CABINET.

WIRELESS MICROPHONE ANTENNA. REFERENCE SPECIFICATIONS FOR MORE INFORMATION.

ASSISTED LISTENING ANTENNA. REFERENCE SPECIFICATIONS FOR MORE INFORMATION.

NOTES:  
1. REFERENCE SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS

SUBSCRIPTS LEGEND - EXISTING DEVICES

INDICATES THAT THE DEVICE IS EXISTING TO REMAIN. CONTRACTOR TO REMOVE DEVICE AND PLACE IN THE SAME LOCATION AS NEEDED.

INDICATES THAT THE DEVICE IS EXISTING AND IS TO BE REMOVED. CONTRACTOR TO REMOVE THE DEVICE AND RETURN TO OWNER.

INDICATES THAT THE DEVICE IS EXISTING AND SHALL BE REPLACED. REFERENCE NEW SYSTEM LAYOUT FOR EXACT LOCATIONS.

INDICATES THAT THE DEVICE IS EXISTING AND SHALL BE REMOVED AND RELOCATED TO A LOCATION INDICATED ON THE DRAWINGS. REFERENCE NEW SYSTEM LAYOUT FOR EXACT LOCATIONS.

COMMUNICATIONS	
	SCHOOL INTERCOMMUNICATION SYSTEM HANDSET.
DEFAULT ELEVATION (UNLESS INDICATED OTHERWISE) TO CENTER OF ROUGH-IN: 42" AFF	
	VOLUME CONTROL - WALL MOUNTED
	INTERCOMPA SYSTEM CALL-IN OR CALL-BACK DEVICE
DEFAULT ELEVATION (UNLESS INDICATED OTHERWISE) TO CENTER OF ROUGH-IN: 120" AFF OR 12" BELOW CEILING, WHICHEVER IS LOWER	
	INTERCOMPA SPEAKER
	"L" LOCAL SOUND REINFORCEMENT
CEILING MOUNTED DEVICES:	
	INTERCOMPA SPEAKER
	"VC" INDICATES VOLUME CONTROL ON SPEAKER

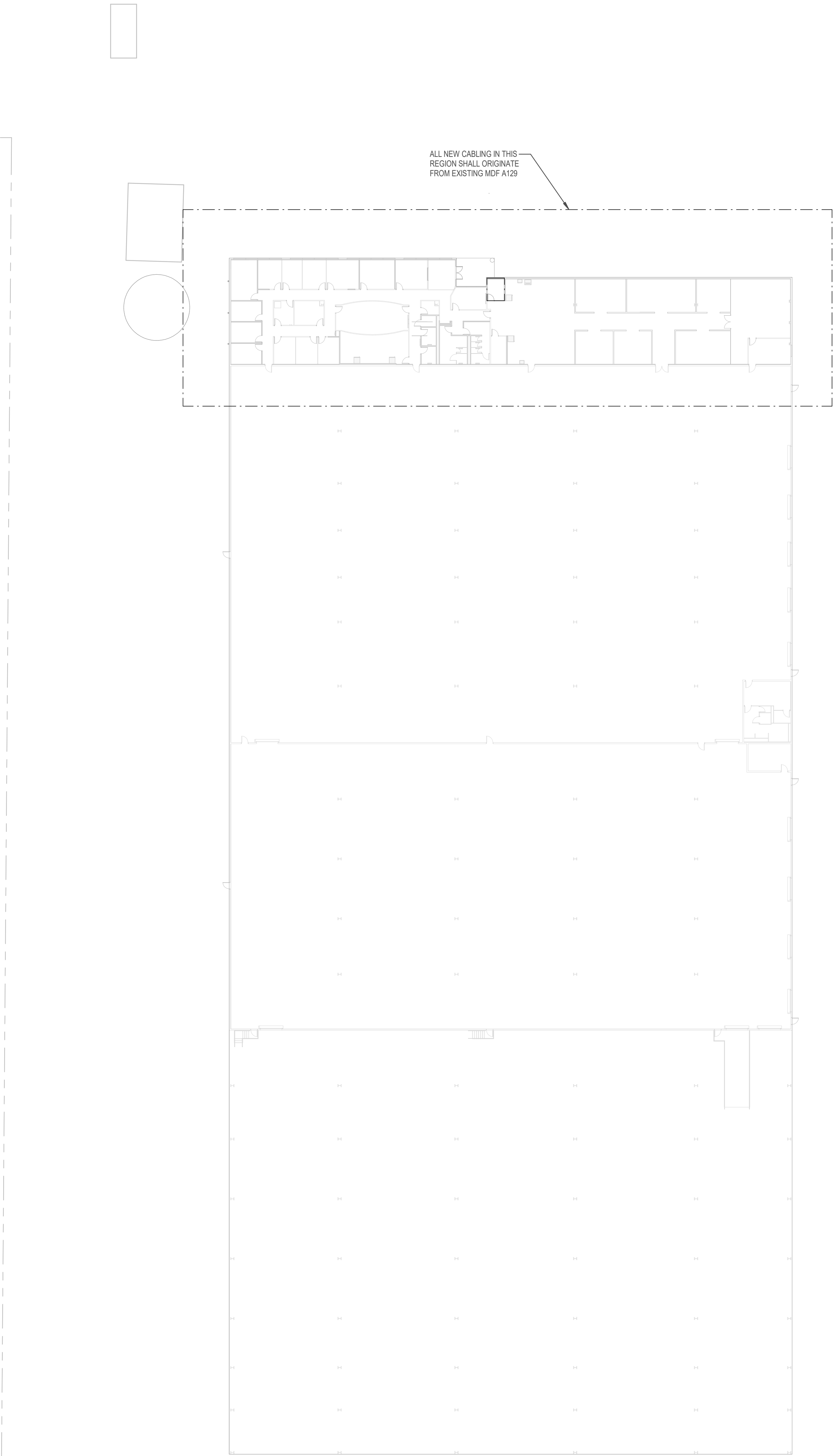
TECHNOLOGY GENERAL NOTES	
1. CONTRACTOR SHALL COORDINATING WITH DBR ENGINEERING PRIOR TO THE INSTALLATION OF RACKS AND RACK EQUIPMENT. NO RACKS SHALL BE PERMANENTLY INSTALLED WITHOUT WRITTEN APPROVAL OF THE PROPOSED LOCATIONS.	
2. THE SELECTED, INSTALLING CONTRACTOR MUST BE A CERTIFIED INTEGRATOR/ INSTALLER AUTHORIZED BY THE SPECIFIED SYSTEM MANUFACTURER TO INSTALL THE CABLE PLANT AND CONNECTIVITY PRODUCTS. REFER TO SPECIFICATIONS FOR PRODUCT TYPE AND DESCRIPTION.	
3. SYSTEM WIRING AND EQUIPMENT INSTALLATION SHALL BE IN ACCORDANCE WITH GOOD ENGINEERING PRACTICES AS ESTABLISHED BY THE PROJECT'S ELECTRICAL CONTRACTOR.	
4. ALL WIRING SHALL MEET ALL STATE AND LOCAL ELECTRICAL CODES.	
5. TELECOMMUNICATIONS SYSTEMS EQUIPMENT AND MOUNTING LOCATIONS SHALL BE IN COMPLIANCE WITH ADA ACCESSIBILITY STANDARDS.	
6. ALL INDUSTRY STANDARD CATEGORY 6 CABLING PRACTICES MUST BE FOLLOWED FOR ALL DATA CABLING.	
7. ALL DATA CABLES ARE TO BE INSTALLED WITH A MINIMUM OF 12" INCHES OF SEPARATION FROM AC POWER CABLES, INTERCOM, FIRE ALARM, SECURITY CABLES IN ANY PARALLEL OPEN WIRE RUN.	
8. ALWAYS CROSS OTHER SYSTEM CABLES AT A 90 DEGREE ANGLE.	
9. ALL CABLES AND TERMINATION COMPONENTS SHALL BE MACHINE LABELED AT BOTH ENDS. LABEL ALL CABLES PER TS DRAWINGS AND/OR SPECIFICATIONS. FINAL CABLE/OUTLET IDENTIFICATION LABELS SHALL BE COORDINATED WITH THE OWNER AND DBR.	
10. CONTRACTOR TO PROVIDE LIGHTNING PROTECTION ON ALL COMMUNICATION CABLE BETWEEN BUILDINGS.	
11. ALL EXPOSED CABLING ROUTED IN PLENUM SHALL BE PLENUM-RATED. ALL NON PLENUM-RATED CABLING INSTALLED IN PLENUM SPACES SHALL BE INSTALLED IN CONDUIT.	
12. NO TERMINATION OR SPLICES SHALL BE INSTALLED IN OR ABOVE CEILINGS UNLESS NOTED NOTED OTHERWISE.	
13. CONTRACTOR SHALL MAINTAIN WALL RATING WITH PROPER FIRE BLOCKING.	
14. ALL CABLE INSTALLED SHALL ROUTE TO THE CENTER OF THE ROOM IN WHICH IT SERVES AND THEN TO THE OUTLET LOCATION IT IS INTENDED FOR. EACH CABLE SHALL HAVE A 10' SERVICE LOOP AT THE CENTER OF EACH ROOM AND A 3' SERVICE LOOP ABOVE EACH OUTLET LOCATION.	
15. THE SYSTEM INSTALLER SHALL PROPERLY SUPPORT ALL INSTALLED SYSTEM CABLING FROM A PANOUT, JAMOD CABLE SUPPORT SYSTEMS AS DETAILED IN SPECIFICATIONS. NO CABLING SHALL BE ROUTED AND TIED DIRECTLY TO BUILDING STEEL, CEILING, GRID SUPPORT, CONDUIT, PIPING, OR DUCTWORK. PANOUT JAMOD SUPPORT SYSTEM SHALL BE DIRECTLY CONNECTED TO THE BUILDING'S STEEL JOIST. IN LOCATION WHERE THE BOTTOM OF THE JOIST IS MORE THAN 5' ABOVE THE CEILING, THE SYSTEM INSTALLER SHALL PROVIDE AND INSTALL THREADED ROD AND ALL REQUIRED MATERIALS TO CONNECT THE THREADED ROD TO THE BUILDING STEEL AND THE CABLE SUPPORT SYSTEM TO THE THREADED ROD. CABLE PATHWAY SHALL NOT BE HIGHER THAN 5' ABOVE THE CEILING AT ANY LOCATIONS.	
16. CONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING AND COMPONENTS TO FURNISH TWO (2) ANALOG TELEPHONE CABLES TO THE FIRE ALARM SYSTEM. CONTRACTOR TO COORDINATE WITH THE SYSTEM INSTALLER FOR EXACT LOCATIONS AND TERMINATION INSTRUCTIONS PRIOR TO INSTALLATION.	
17. CONTRACTOR TO PROVIDE AND INSTALL (1) CATEGORY 6 CABLE TO THE BUILDING'S ACCESS CONTROL HEAD END PANEL. TERMINATION OF THIS CABLE SHALL BE COORDINATED WITH THE SYSTEM INSTALLER.	
18. CONTRACTOR TO PROVIDE AND INSTALL (1) CATEGORY 6 CABLE TO THE BUILDING'S INTRUSION DETECTION PANEL. TERMINATION OF THIS CABLE SHALL BE COORDINATED WITH THE SYSTEM INSTALLER.	
19. PROVIDE AND INSTALL ONE (1) CATEGORY 6 CABLE TO EACH LIGHTING CONTROL HUB ON THE ENTIRE PROJECT. COORDINATE EXACT QUANTITY AND LOCATIONS WITH THE LIGHTING CONTROL SYSTEM INSTALLER. CONTRACTOR TO ASSUME A MINIMUM OF FIVE (5) PER PROJECT.	
20. CONTRACTOR TO PROVIDE AND INSTALL ONE (1) CATEGORY 6 DATA CIRCUITS TO EACH PROJECTOR AND LCD ON THE ENTIRE PROJECT.	
21. PROVIDE AND INSTALL ONE (1) CATEGORY 6 DATA CIRCUIT TO THE LOCAL AIR UNIT CONTROLLER IN EACH MDF AND IDF.	
22. PROVIDE AND INSTALL ONE (1) CATEGORY 6 DATA CIRCUIT TO EACH ACCESS CONTROL VIDEO DOOR STATION ON THE ENTIRE PROJECT. COORDINATE EXACT LOCATION AND TERMINATION REQUIREMENTS WITH THE DOOR STATION INSTALLER. PRIOR TO INSTALLATION. 22.	

SECURITY GENERAL NOTES	
1. THE SECURITY SYSTEM INSTALLERS SHALL BE RESPONSIBLE FOR CONNECTING ALL APPLICABLE SYSTEM EQUIPMENT TO THE OWNER'S NETWORK.	
2. IF THE SYSTEM INSTALLER SHALL PROPERLY SUPPORT ALL INSTALLED SYSTEM CABLING FROM AN APPROVED CABLE SUPPORT SYSTEM AS DETAILED IN SPECIFICATIONS. NO CABLING SHALL BE ROUTED AND TIED DIRECTLY TO BUILDING STEEL, CEILING, GRID SUPPORT, CONDUIT, PIPING, OR DUCTWORK. THE CABLE SUPPORT SYSTEM SHALL BE DIRECTLY CONNECTED TO THE BUILDING'S STEEL JOIST. AT LOCATIONS WHERE THE BOTTOM OF THE JOIST IS MORE THAN 5' ABOVE THE CEILING, THE SYSTEM INSTALLER SHALL PROVIDE AND INSTALL THREADED ROD AND ALL REQUIRED MATERIALS TO CONNECT THE THREADED ROD TO THE BUILDING STEEL AND THE CABLE SUPPORT SYSTEM TO THE THREADED ROD. CABLE PATHWAY SHALL NOT BE HIGHER THAN 5' ABOVE THE CEILING AT ANY LOCATIONS.	
3. SECURITY CAMERA SYSTEM INSTALLER SHALL PROVIDE A CEILING MOUNTED INSTALLATION KIT RECOMMENDED BY THE MANUFACTURER OF THE CAMERA. EACH CEILING MOUNTED CAMERA KIT SHALL HAVE A SUPPORT WIRE ATTACHED TO THE BUILDING'S STRUCTURE TO PREVENT THE CAMERA FROM DRIPPING TO THE FLOOR AT ANY TIME. AT NO POINT SHALL THE WEIGHT OF THE CEILING MOUNTED SECURITY CAMERA BE SUPPORTED BY THE CEILING GRID SYSTEM OR CEILING TILES. ALL CEILING MOUNTED CAMERAS SHALL BE FLUSH MOUNTED.	
4. ALL EXTERIOR AND WALL MOUNTED CAMERA LOCATIONS AND MOUNTING HEIGHTS MUST BE COORDINATED WITH THE OWNER PRIOR TO ROUGH-IN. COORDINATION MEETINGS SHALL BE SCHEDULED THROUGH THE ARCHITECT'S PROJECT MANAGER.	
5. PROVIDE AND INSTALL MAGNETIC DOOR CONTACT AT ALL ROOF HATCHES ON THE ENTIRE PROJECT. CONTACTS TO BE CONNECTED TO THE BUILDINGS INTRUSION DETECTION SYSTEM.	
6. CONTRACTOR TO PROVIDE AND INSTALL A MONITOR RELAY AND ALL REQUIRED MATERIALS TO CONNECT THE RELAY TO THE FREEZER/COOLER TEMPERATURE GAUGE AND BACK TO THE INTRUSION DETECTION SYSTEM. THE INTRUSION DETECTION SYSTEM SHALL BE PROGRAMMED TO NOTIFY THE OWNER'S DESIGNATED PERSONNEL IN THE EVENT OF EXTENSIVE CHANGE IN TEMPERATURE.	

NOTES TO CONTRACTOR	
1. EVERY SYMBOL SHOWN ON LEGEND MAY NOT APPEAR ON DRAWINGS. REFER TO GENERAL ELECTRICAL NOTES FOR WALL-MOUNTED DEVICE MOUNTING HEIGHTS.	
2. REFERENCE SPECIFICATIONS FOR MATERIALS AND METHODS.	
3. COMPLETE INSTALLATION OF ALL PRODUCTS SHALL BE IN COMPLIANCE WITH ALL CODES, INDUSTRY STANDARDS, COMMON PRACTICES AND MANUFACTURER'S INSTRUCTIONS.	
4. ALL EXTERIOR AND WALL MOUNTED CAMERA LOCATIONS AND MOUNTING HEIGHTS MUST BE COORDINATED WITH THE OWNER PRIOR TO ROUGH-IN. COORDINATION MEETINGS SHALL BE SCHEDULED THROUGH THE ARCHITECT'S PROJECT MANAGER.	

RESPONSIBILITY MATRIX			
SCOPE OF WORK	RESPONSIBILITY		
DIV 27 - COMMUNICATIONS			
TECHNOLOGY SCOPE	OFCI	OFCI	CFCI
STRUCTURED CABLING			X
CABLE TRAY IN MDF/IDF			X
CABLE TRAY OUTSIDE MDF/IDF	-	-	-
TELECOM GROUNDING SYSTEM			X
BACK BOXES, CONDUITS/SLEEVES			X
EQUIPMENT RACKS/CABINETS		X	
WIRELESS ACCESS POINTS	X		
NETWORK SWITCHES	X		
RACK NETWORK UPS AND PDU	X		
INTERCOM SYSTEM UPS AND PDU			X
WORKSTATION PC	X		
TELEPHONES	X		
POE INJECTORS			X
AUDIO-VIDEO SYSTEM	OFCI	OFCI	CFCI
LOCAL SOUND SYSTEM			X
CEILING/WALL PROJECTORS			X
PROJECTOR MOUNTS			X
FLAT PANEL DISPLAY (TV)	X		
FLAT PANEL DISPLAY (TV) MOUNTS		X	
PROJECTION SCREENS			X
DIGITAL SIGNAGE PLAYER	-	-	-
AV SWITCHER	-	-	-
AV CONTROL PANEL	-	-	-
AV EQUIPMENT CABINETS			X
AV CABLING			X
NETWORK CABLING REQUIRED			X
PORTABLE PROJECTORS/TV	-	-	-
LECTERN	-	-	-
BACK BOXES, CONDUITS/SLEEVES			X
DIV 28 - SECURITY SYSTEMS			
VIDEO SURVEILLANCE SYSTEM	OFCI	OFCI	CFCI
CAMERAS AND LICENSES	X		
CAMERA MOUNTS	X		
CAMERA NETWORK CABLING			X
PoE SWITCHES	X		
VMS SERVERS	X		
VIEWING STATION	X		
POE INJECTORS			X
BACK BOXES, CONDUITS/SLEEVES			X
EQUIPMENT RACKS/CABINETS		X	
ACCESS CONTROL SYSTEM	OFCI	OFCI	CFCI
CARD READERS			X
DOOR CONTACTS			X
ELECTRIFIED LOCKS			X
REX INSIDE DOOR			X
PUSH TO EXIT			X
PIR SENSORS			X
LOW VOLTAGE POWER SUPPLY			X
ACCESS CONTROL PANELS			X
EQUIPMENT RACKS/CABINETS			X
BACK BOXES, CONDUITS/SLEEVES			X
COMPOSITE CABLING			X
NETWORK CABLING REQUIRED			X
CREDENTIAL CARDS			X
BADGE PRINTERS	X		
INTRUSION DETECTION SYSTEM	OFCI	OFCI	CFCI
MOTION SENSORS			X
GLASS BREAK SENSORS			X
ALARM/DISARM KEY PAD			X
INTRUSION DETECTION PANEL(IDP)			X
DOOR CONTACTS			X
DATA/VOICE CABLING TO IDP			X
PHONE OR INTERNET SERVICES	X		
INTRUSION ALARM CABLING			X
BACK BOXES, CONDUITS/SLEEVES			X
* - DENOTES COMPONENTS THAT ARE TO BE PROVIDED VIA ALLOWANCE.			
**- DENOTES COMPONENT THAT IS EXISTING.			





1 TECHNOLOGY SITE PLAN  
1" = 30'-0"

TECHNOLOGY KEYED NOTES

CONSULTANTS  
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TISD INNOVATION CENTER  
BLDG.4 RENOVATION

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11211 Farm To Market 2920, Tomball, TX 77355

ARCADIS  
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tel 281.286.6605, fax 713.977.4620



3/28/25

PROJECT #: 202415  
DATE: 2025-03-31  
DRAWN: DBR  
CHECKED: DBR  
DATE: 2025-03-31  
ISSUE: PROPOSAL AND PERMIT



T0.02  
TECHNOLOGY  
SITE PLAN



TECHNOLOGY KEYED NOTES

GENERAL DEMO SHEET NOTES:

1. IN AREAS WHERE CEILING IS BEING REMOVED, ALL EXISTING CEILING MOUNTED DEVICES NOT SCHEDULED FOR DEMOLITION OR REPLACEMENT SHALL BE REMOVED TO ALLOW FOR COMPLETE REMOVAL OF THE EXISTING CEILING. CONTRACTOR SHALL DOCUMENT DEVICE'S ORIGINAL LOCATION, LABEL AND PROPERLY PROTECT THE DEVICE FROM DAMAGE DURING CONSTRUCTION, AND RE-INSTALL AND RE-CONNECT IT AT THE SAME LOCATION AS IT WAS REMOVED FROM AFTER CEILING IS REPLACED.
2. COORDINATE ALL DEMOLITION ACTIVITIES WITH OWNER, ARCHITECT, AND ENGINEER. PROVIDE NO LESS THAN 10 WORKING DAYS' NOTICE PRIOR TO ANY SCHEDULED OUTAGES FOR ANY COMMUNICATION (DIV 27) AND LIFE SAFETY AND SECURITY (DIV 28) OUTAGES.
3. CONTRACTOR SHALL FULLY TEST ALL EXISTING TO REMAIN LOW VOLTAGE SYSTEM (INCLUDING BUT NOT LIMITED TO VOICE AND DATA CABLING SYSTEM, AV SYSTEM, PA, CAMERA SYSTEM, ACCESS CONTROL, INTRUSION ALARM) IN THE RENOVATION SCOPE OF WORK AREA, AND REPORT ANY TEST FAILURE OR MALFUNCTION OF ANY EXISTING DEVICE OR CABLE TO THE OWNER, ARCHITECT AND ENGINEER PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION WORK. ANY EXISTING-TO-REMAIN DEVICE OR CABLE FOUND DAMAGED OR MALFUNCTIONING AT THE TIME OF SUBSTANTIAL COMPLETION, BUT NOT REPORTED PRIOR TO STARTING WORK, SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT OR THE OWNER.
4. ALL CABLING SCHEDULED TO BE DEMOLISHED SHALL BE REMOVED IN ITS ENTIRETY FROM END TO END. NO ABANDONED CABLES SHALL BE LEFT IN THE CEILING PLENUM. ABANDONED CABLE IS DEFINED AS CABLE NOT TERMINATED AT BOTH ENDS AND NOT IDENTIFIED FOR FUTURE USE WITH A TAG.
5. VERIFY WITH OWNER PRIOR TO CONSTRUCTION IF ANY OF THE EQUIPMENT SCHEDULED TO BE DEMOLISHED SHOULD BE RETURNED TO OWNER. ALL EXISTING TO REMAIN EQUIPMENT AND CABLING SHALL BE PROPERLY PROTECTED FROM DAMAGE DURING CONSTRUCTION.
6. THE CONTRACTOR SHALL REFERENCE ALL OTHER TRADES' CONSTRUCTION DOCUMENTS FOR FULL EXTENT OF THE DEMOTION TO BE PERFORMED, AND FIELD VERIFY THE EXISTING JOB-SITE CONDITIONS BEFORE BIDDING. NO CHANGE ORDER WILL BE ALLOWED FOR INCREASED COST ASSOCIATED WITH CONDITIONS WHICH COULD HAVE BEEN DETERMINED BY EXAMINING THE SITE AND WHOLE PROJECT DOCUMENTS BEFORE SUBMISSION OF PROPOSALS AND/OR BEFORE A CONTRACT IS AWARDED.
7. DEMOLITION DRAWINGS ARE BASED ON CASUAL FIELD OBSERVATION OR OUTDATED RECORD DOCUMENTS. CONTRACTOR SHALL REPORT ANY DISCREPANCY TO ARCHITECT AND ENGINEER BEFORE COMMENCEMENT OF THE CONSTRUCTION.

CONSULTANTS

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CHECKED: DBR

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ISSUE: PROPOSAL AND PERMIT

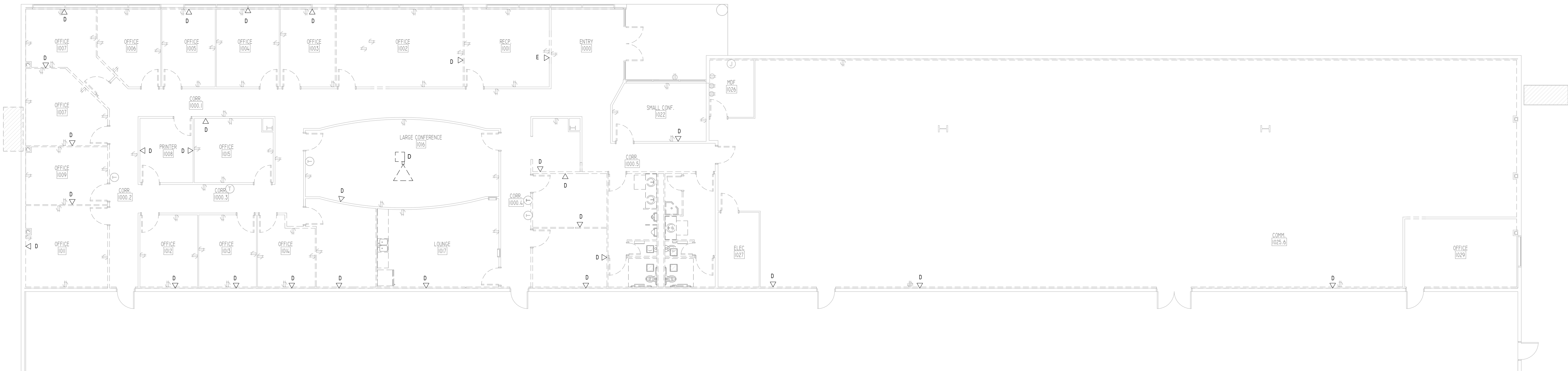
T1.11

AREA 'A1' 1ST  
FLOOR  
DEMOLITION  
TECHNOLOGY  
PLAN



713.914.0888 p  
https://www.dbrinc.com  
TBPE Firm Registration No. 2234

SS CC/TDDT/RR JD RT



1 AREA 'A1' 1ST FLOOR DEMOLITION TECHNOLOGY PLAN  
1/8" = 1'-0"



## T5.12 RESERVED FOR FUTURE DISPLAY.

1. ALL TECHNOLOGY DEVICES, OUTLETS AND CABLE/CONDUIT PATHWAYS SHOWN ARE DIAGRAMATIC ONLY AND ARE NOT MEANT TO SHOW THE EXACT LOCATION OR ROUTE OF THE DEVICES OR CABLES. THE ARCHITECT AND OWNER FOR EXACT ROUTE, MOUNTING HEIGHT, AND LOCATION BEFORE INSTALLATION, AND SHALL COORDINATE WITH OTHER TRADES TO MAKE SURE ALL DEVICES AND CABLES ARE IN THE PRIMARY TO AVOID COLLISIONS AND MEET THE PROJECT REQUIREMENTS.
2. CONDUITS AND BACKBOXES: SIZE PER DIV 27.28 SPECIFICATIONS. SHALL BE PROVIDED (BY DIV 26) FOR ALL TECHNOLOGY SYSTEM DEVICES MOUNTED ON WALL, FLOOR, AND OR CONCRETE SLAB FINISH CEILING. UNITS/DEVICES SHALL BE MOUNTED TO THE WALL, CABLE ROUTE IN WALLS, OR THROUGH FLOOR PLATE HEIGHT PARTITIONS, OR THROUGH ACCESSIBLE CEILING PLENUM, OR THROUGH SPACES WITH EXPOSED BUILT IN DECK.
3. UTP (CAT) CABLES OF DIFFERENT RATING (CAT 5, CAT 6, CAT 7) AND POWER OR DATA (SHIELDED OR COLORED SHEATH) OR DIFFERENT MEDIA TYPE CABLES (UTP, FIBER, COAX, ETC.) SHALL BE ROUTED IN SEPARATE HOOKS, CONDUITS, SLEEVES, CORNERS ETC. THROUGHOUT THE ENTIRE PROJECT. INSTRUMENTATION CABLES SHALL BE SEPARATE TELECOMMUNICATIONS CABLING (INCLUDING CLASS 4 POWER), SHALL BE SEPARATED FROM POWER CABLING WITH A SEPARATE CABLE TRAY OR CONDUIT SYSTEM WITHIN 4'.
4. BUSINESSES SHALL BE INSTALLED AT EACH END OF THE CONDUITS BEFORE CABLES BEING PULLED THROUGH. PROVIDE PULL STRING IN EACH CONDUIT INSTALLED AND LEAVE ONE FOR FUTURE PULLING AFTER CABLE INSTALLATION IS COMPLETE.
5. NO NETWORK DATA CABLE RUN SHALL EXCEED 288 FEET IN TOTAL LENGTH. USING LONGEST ROUTE TO THE DEVICE. CABLES SHALL BE APPROVAL FROM THE ARCHITECT AND ENGINEER, CONTRACTOR SHALL COORDINATE WITH OTHER TRADES FOR PROPER PATHWAY PLANNING.
6. ALL CONDUITS FOR TECHNOLOGY DEVICES SHALL ROUTE FROM THE ACCESSIBLE LOCATION AND TERMINATE ABOVE 18" IN CEILING IN THE SAME ROOM AS THE CEILING AND FLOOR. CABLES SHALL BE PULLED FROM AN UNCEILING CEILING WHERE THE DEVICE IS LOCATED IF THE ROOM WHERE THE DEVICE IS LOCATED DOES NOT HAVE A FLOOR IN CEILING TO PULL CABLES FROM. CABLES SHALL BE PULLED FROM THE FLOOR AND BE INSTALLED TO THE SHORTEST ROUTE TO THE MAIN CORRIDOR OR THE NEAREST MANTID TO REDUCE THE CABLE LENGTH ENSURING THE CABLES ARE NOT EXPOSED TO THE PUBLIC. CABLES AND CONDUITS SHALL BE PAINTED TO MATCH STRUCTURE UNLESS NOTED OTHERWISE.

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**TISD INNOVATION CENTER  
BLDG.4 RENOVATION**

Tomball ISD

11211 Farm To Market 2920, Tomball, TX 77355



**ARCADIS INC.**

**1330 POST OAK BOULEVARD, SUITE 2250**

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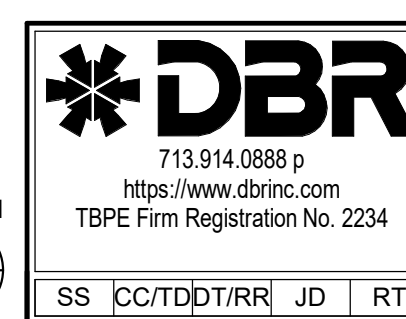


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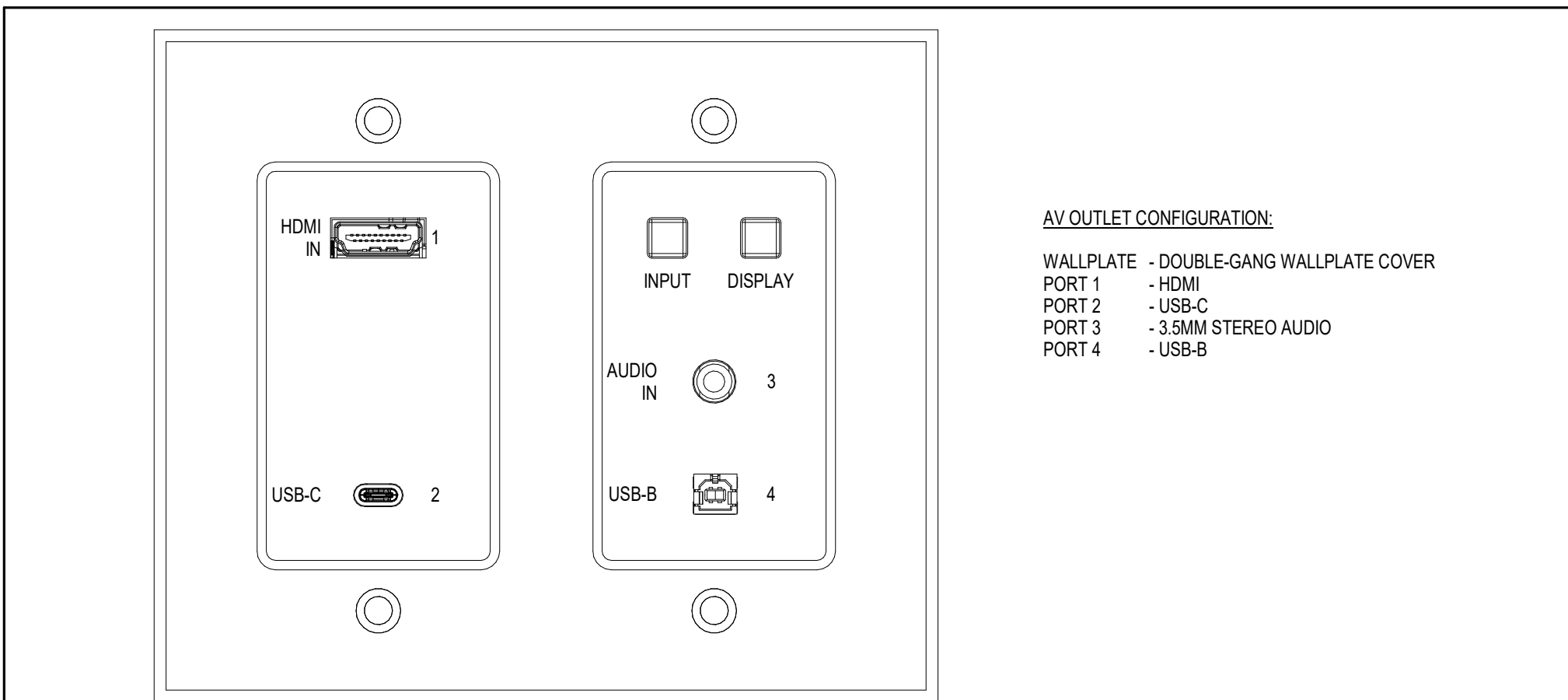
PROJECT #:	202415
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## T2.11

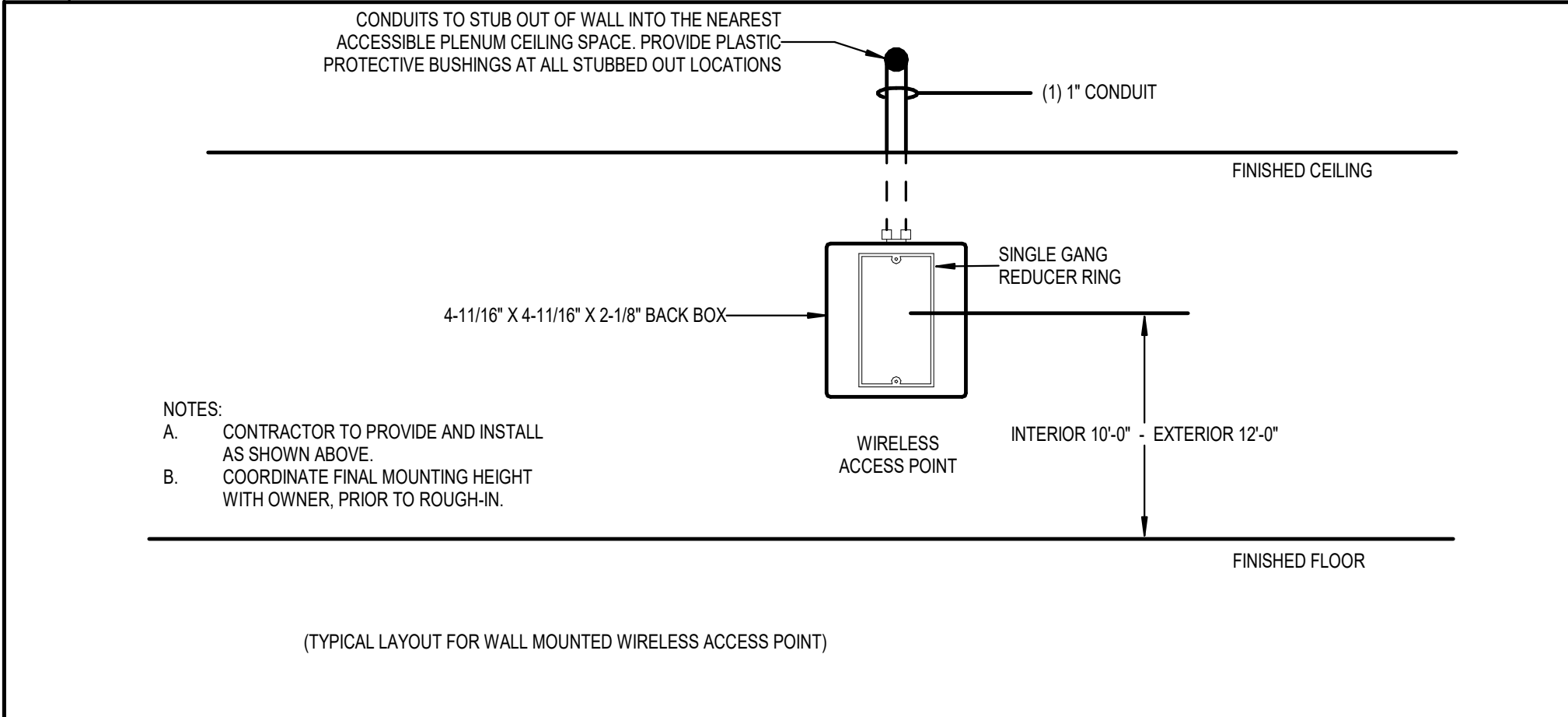
AREA 'A1' 1ST  
FLOOR  
TECHNOLOGY  
PLAN


$$1/8'' = 1'-0''$$

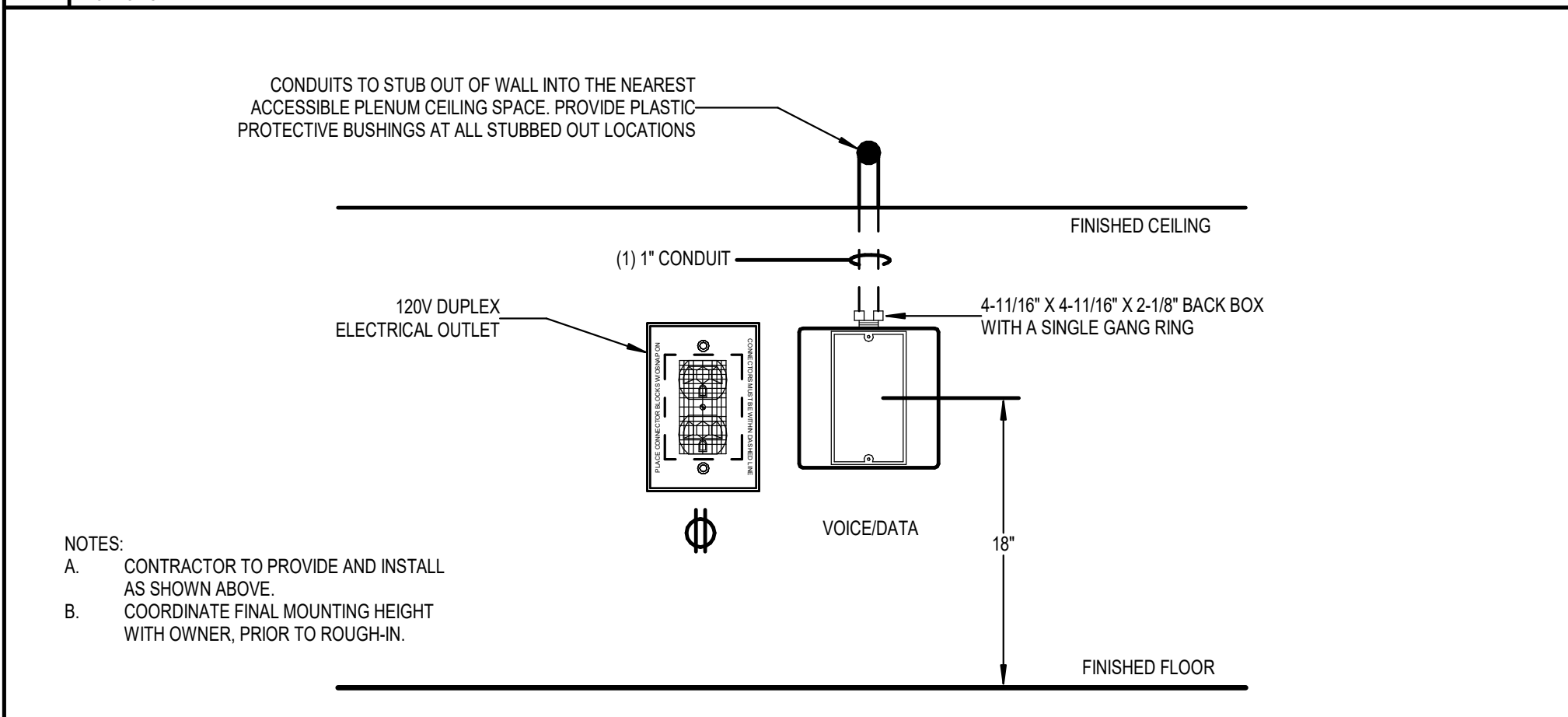




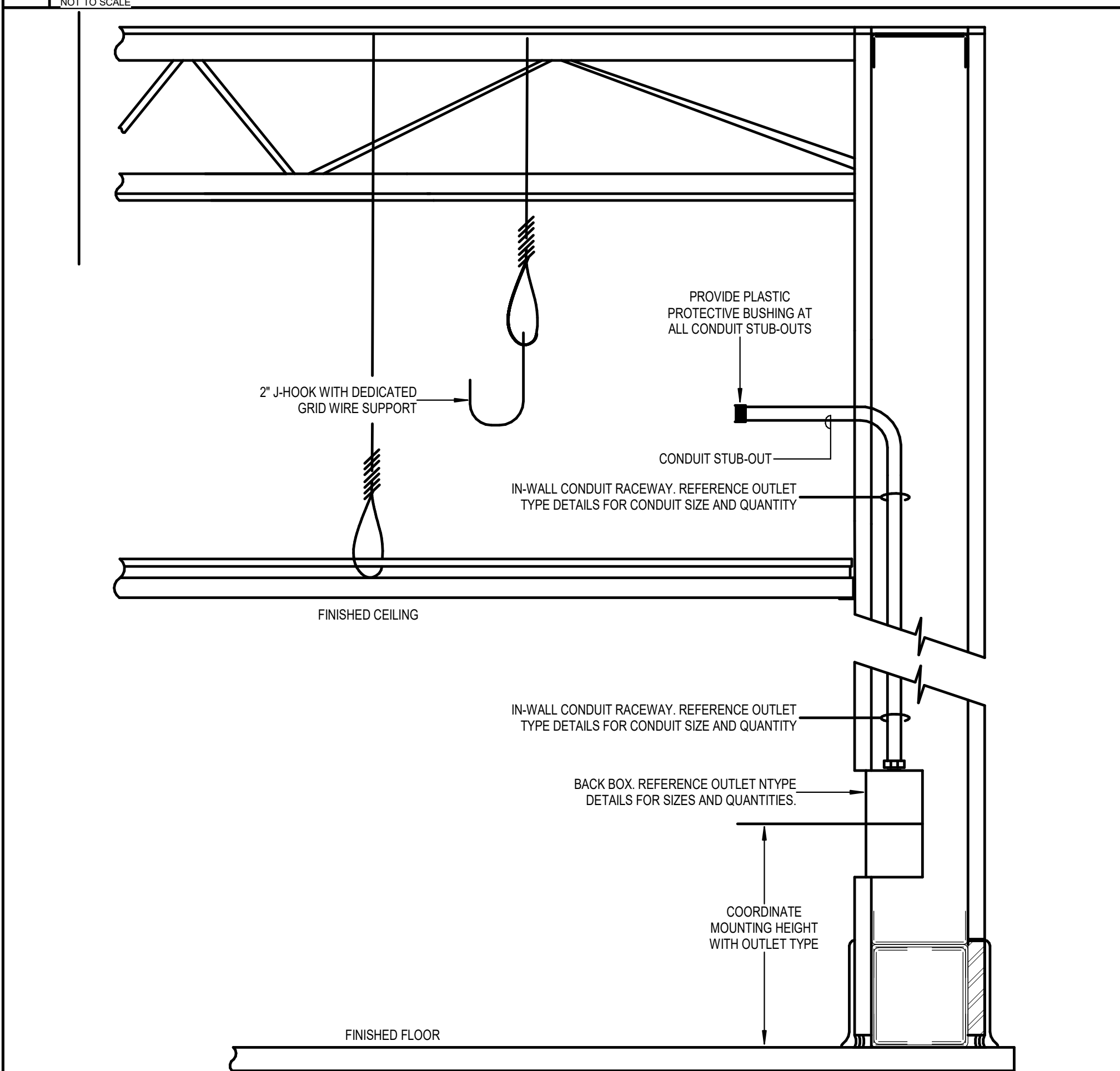
11 AV WALLPLATE DETAIL  
NOT TO SCALE



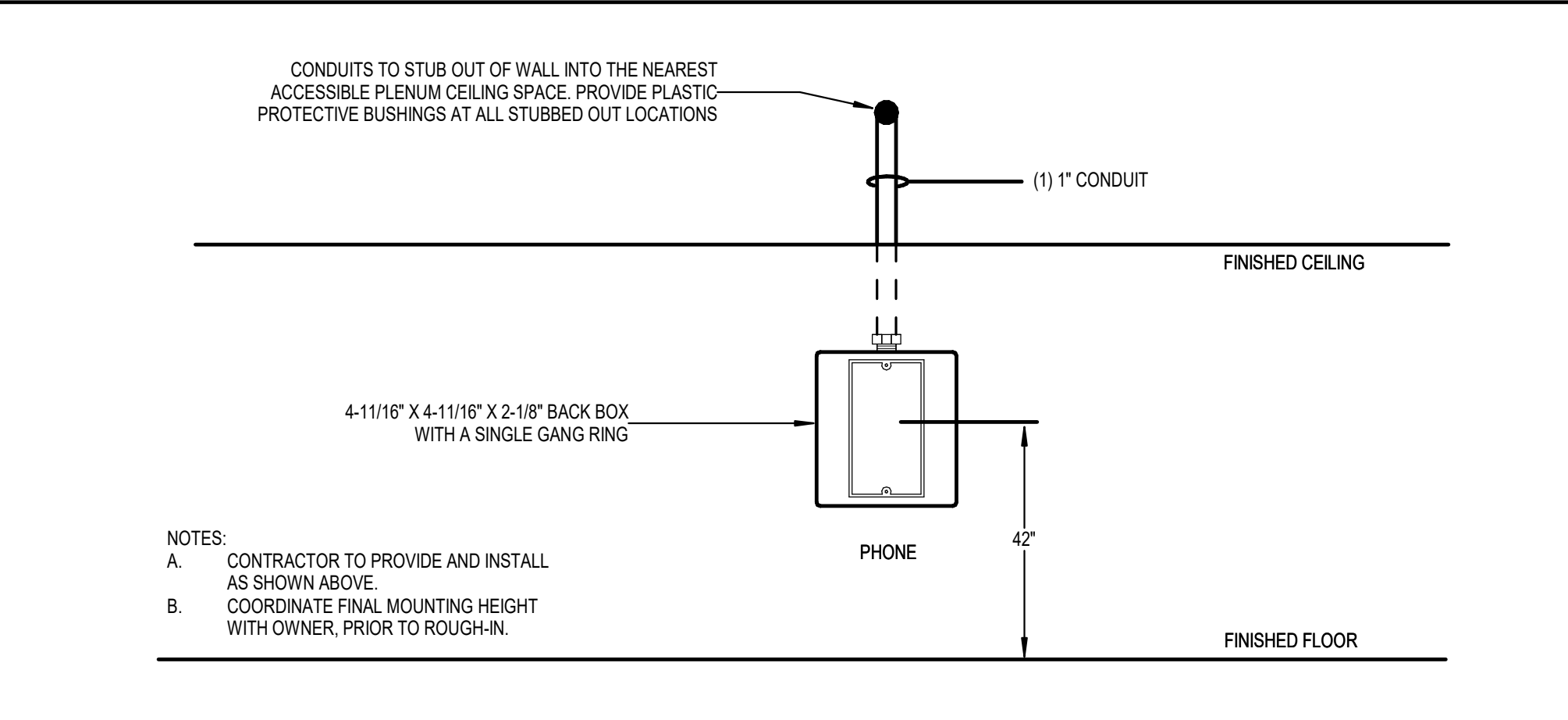
8 RACEWAY DETAIL - WALL MOUNTED WIRELESS AP  
NOT TO SCALE



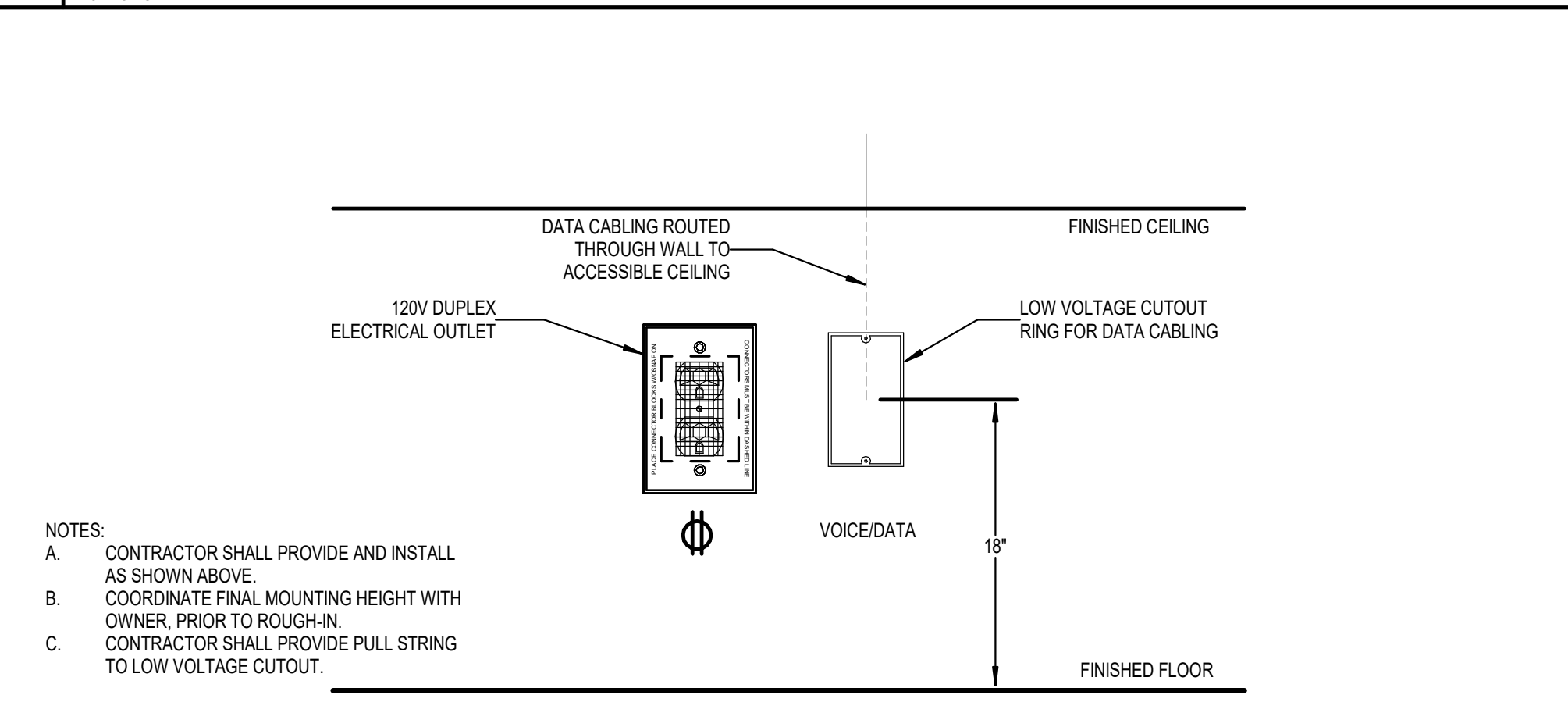
4 RACEWAY DETAIL - TYPICAL VOICE/DATA OUTLET  
NOT TO SCALE



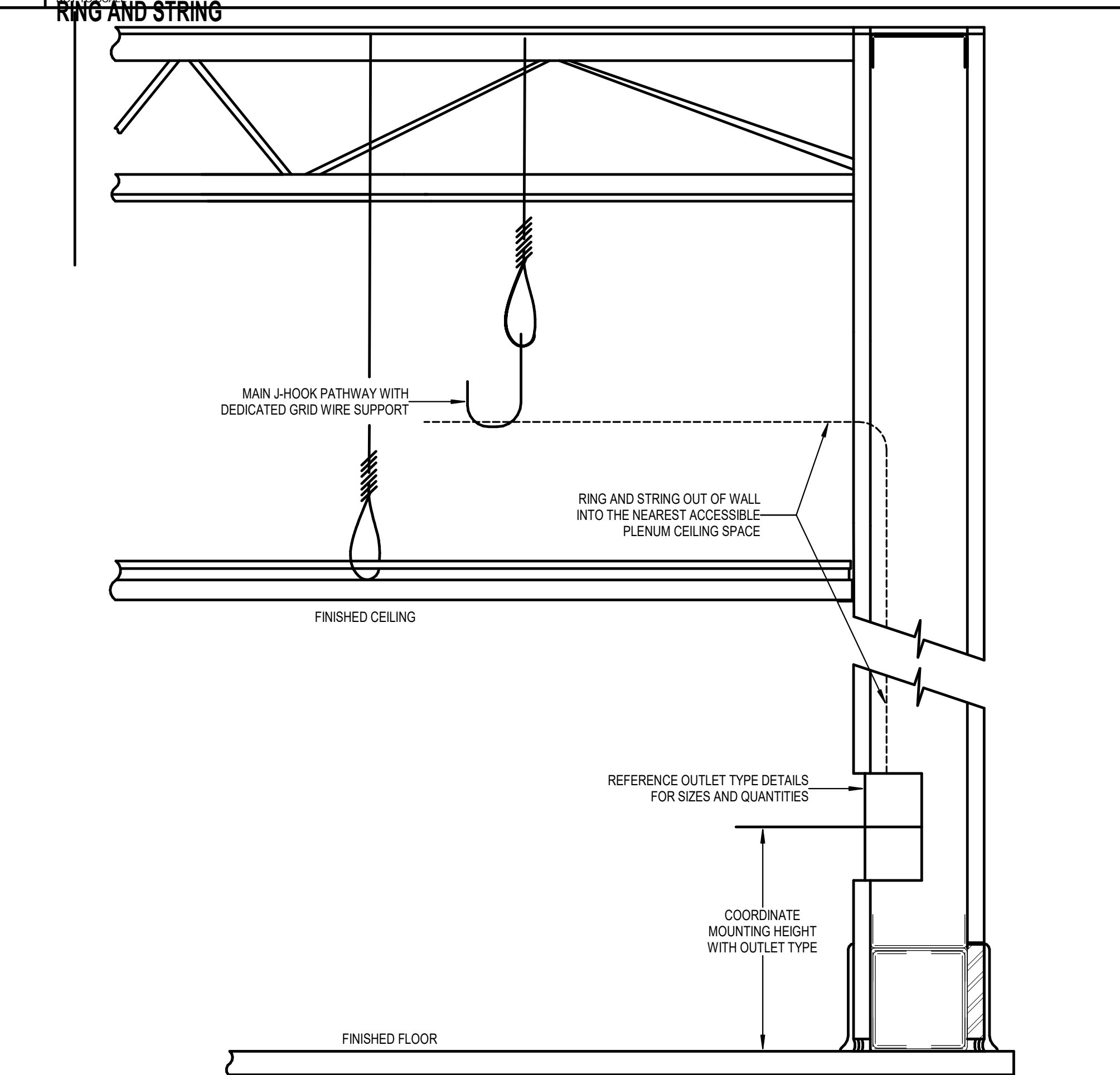
1 LOW VOLTAGE ELEVATION - IN-WALL RACEWAY  
NOT TO SCALE



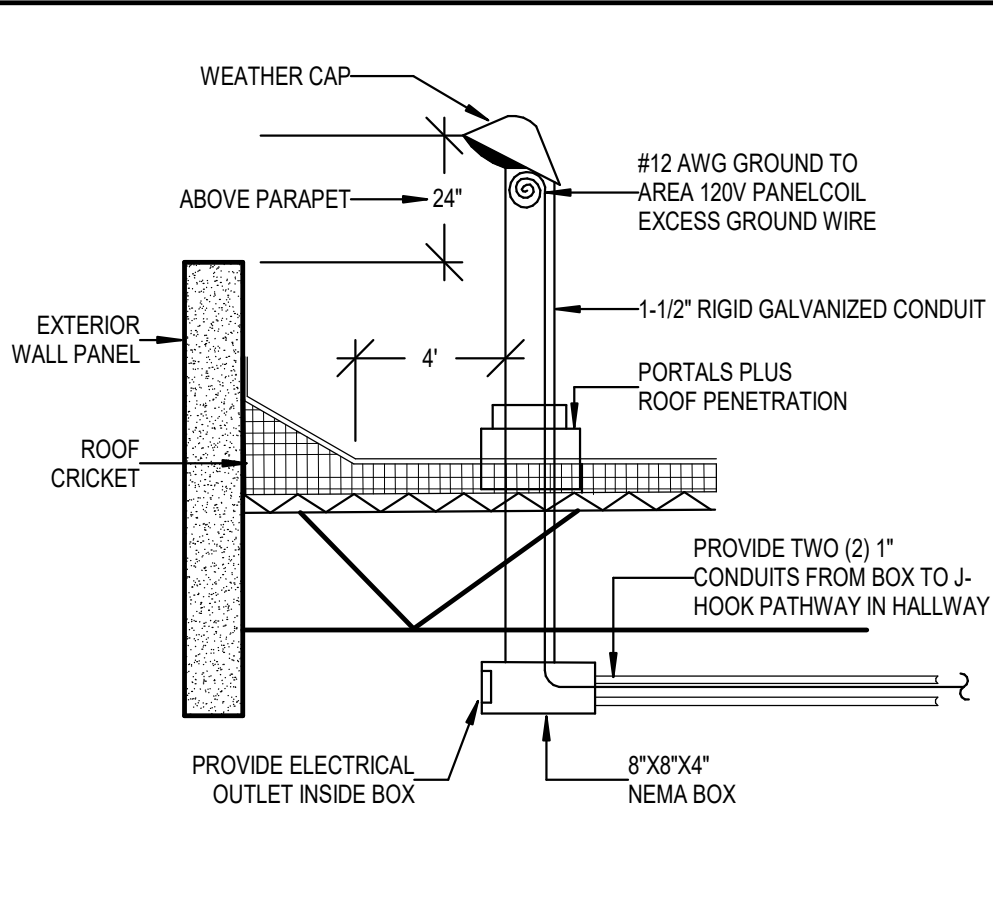
9 RACEWAY DETAIL - WALL MOUNTED TELEPHONE  
NOT TO SCALE



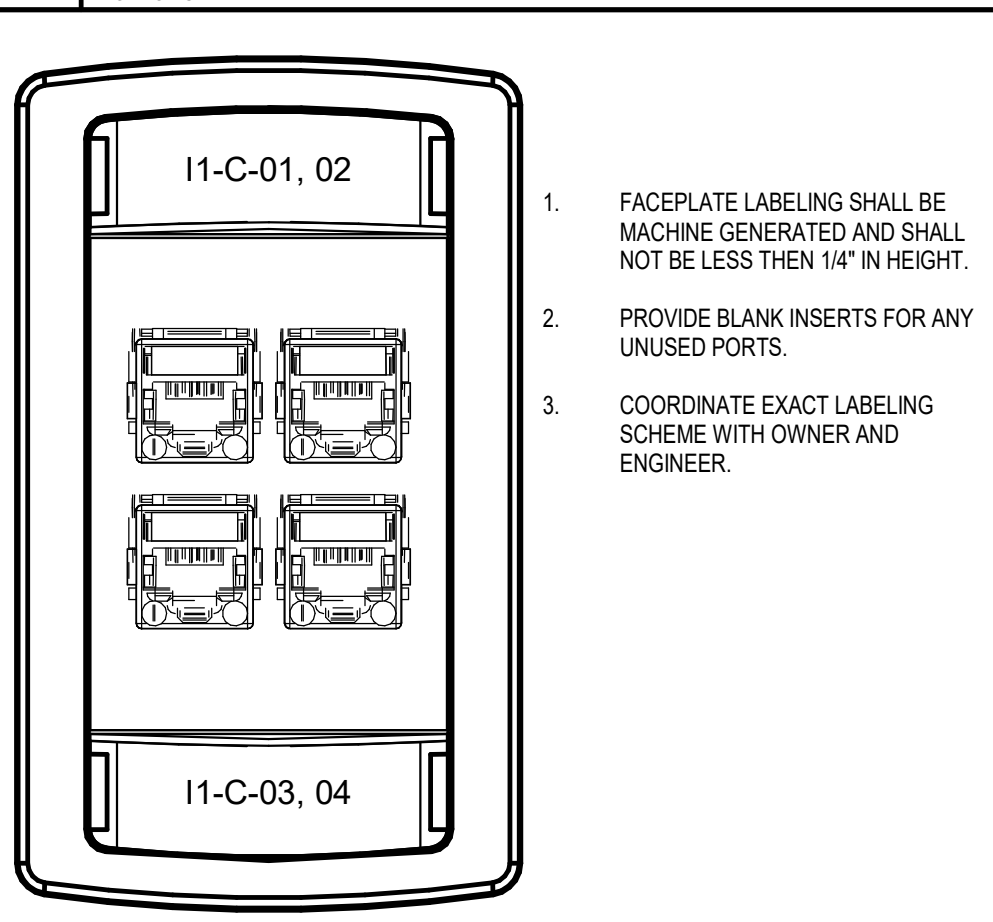
5 RACEWAY DETAIL - TYPICAL VOICE/DATA OUTLET - RING AND STRING  
NOT TO SCALE



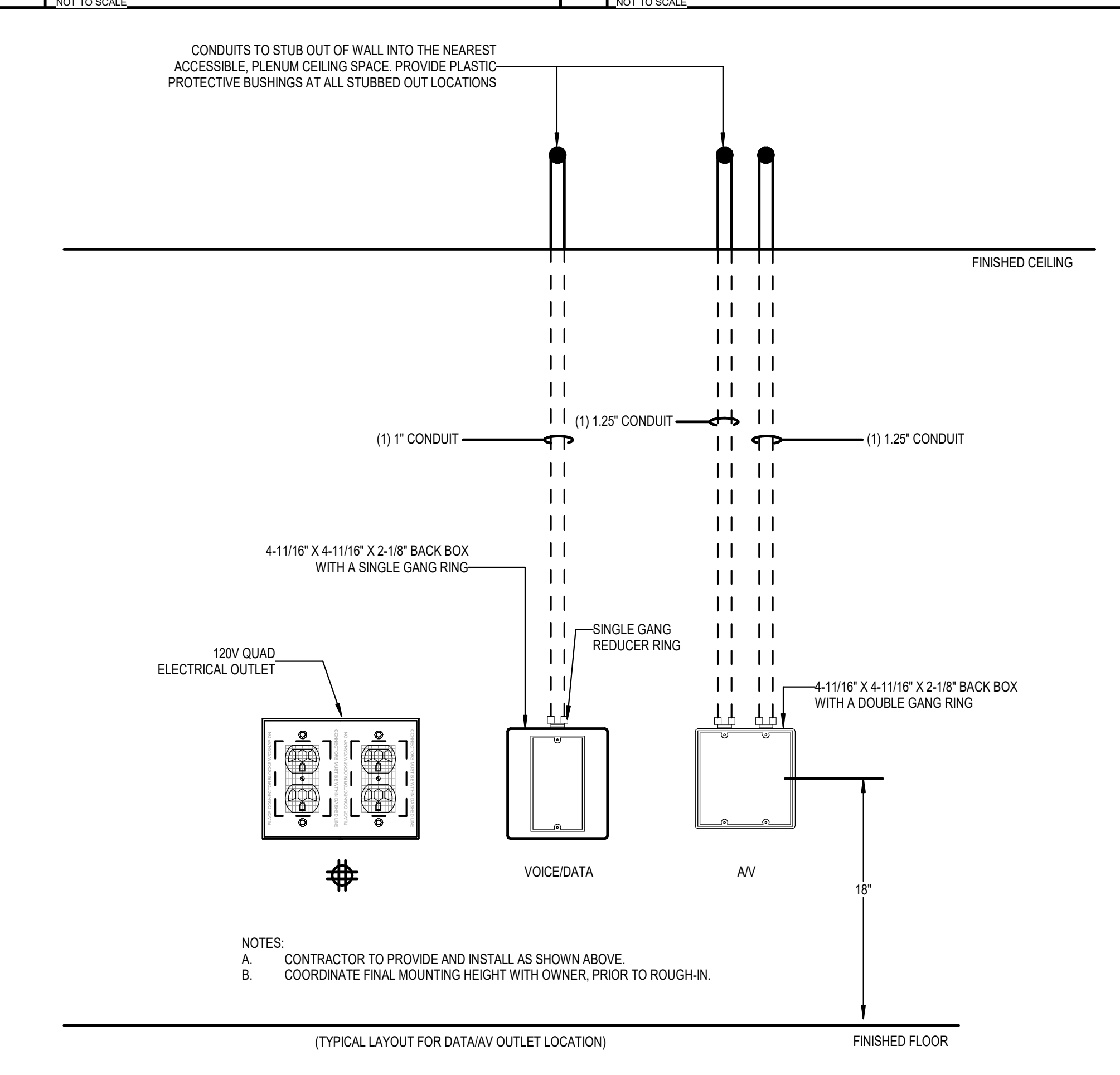
2 LOW VOLTAGE ELEVATION - IN-WALL RACEWAY - RING AND STRING  
NOT TO SCALE



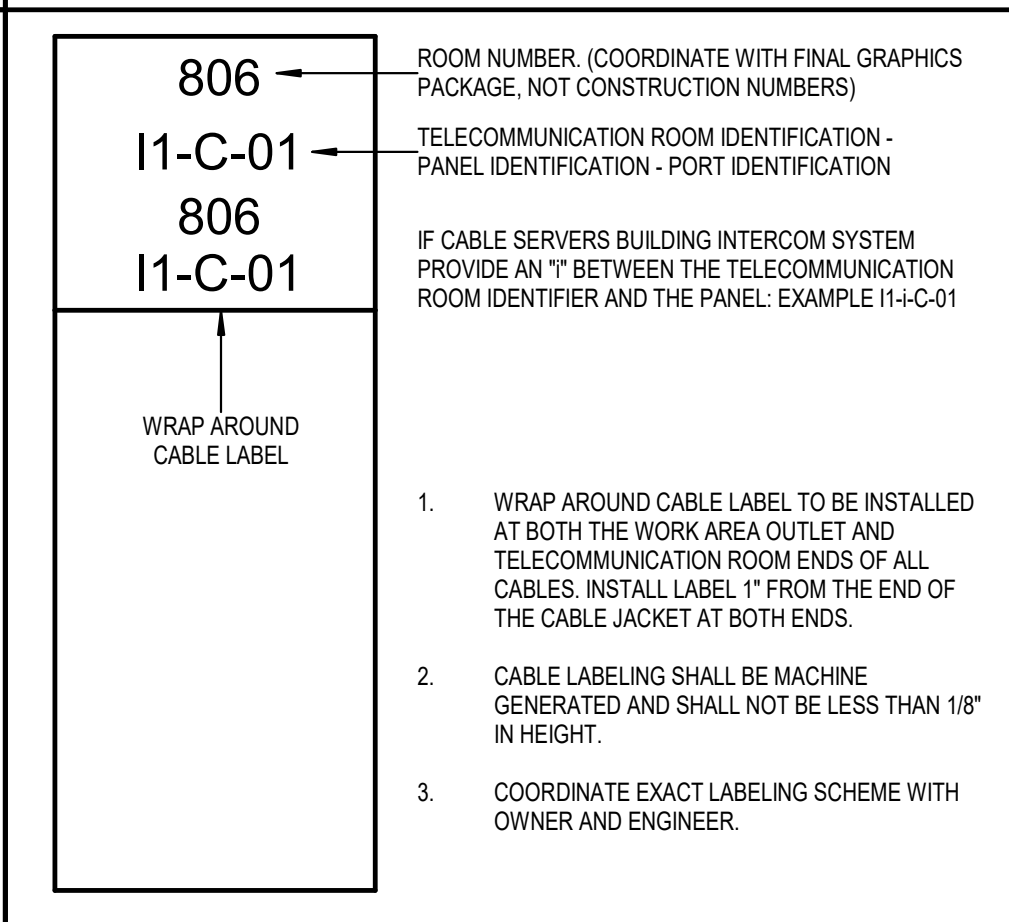
10 LOW VOLTAGE - TYPICAL ROOF PENETRATION  
NOT TO SCALE



6 FACEPLATE LABEL DETAIL  
NOT TO SCALE



3 TYPICAL TEACHERS WORK AREA OUTLET  
NOT TO SCALE



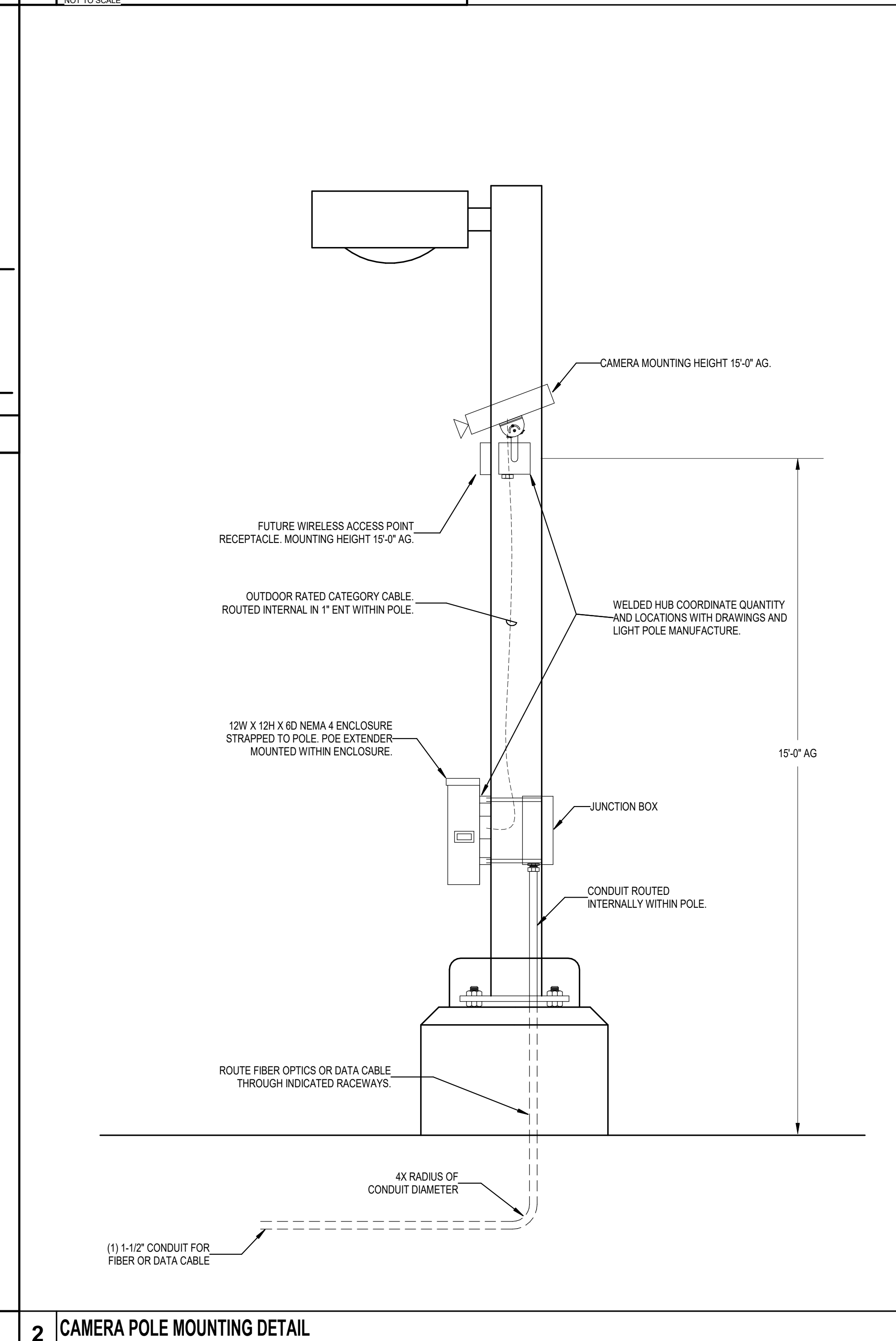
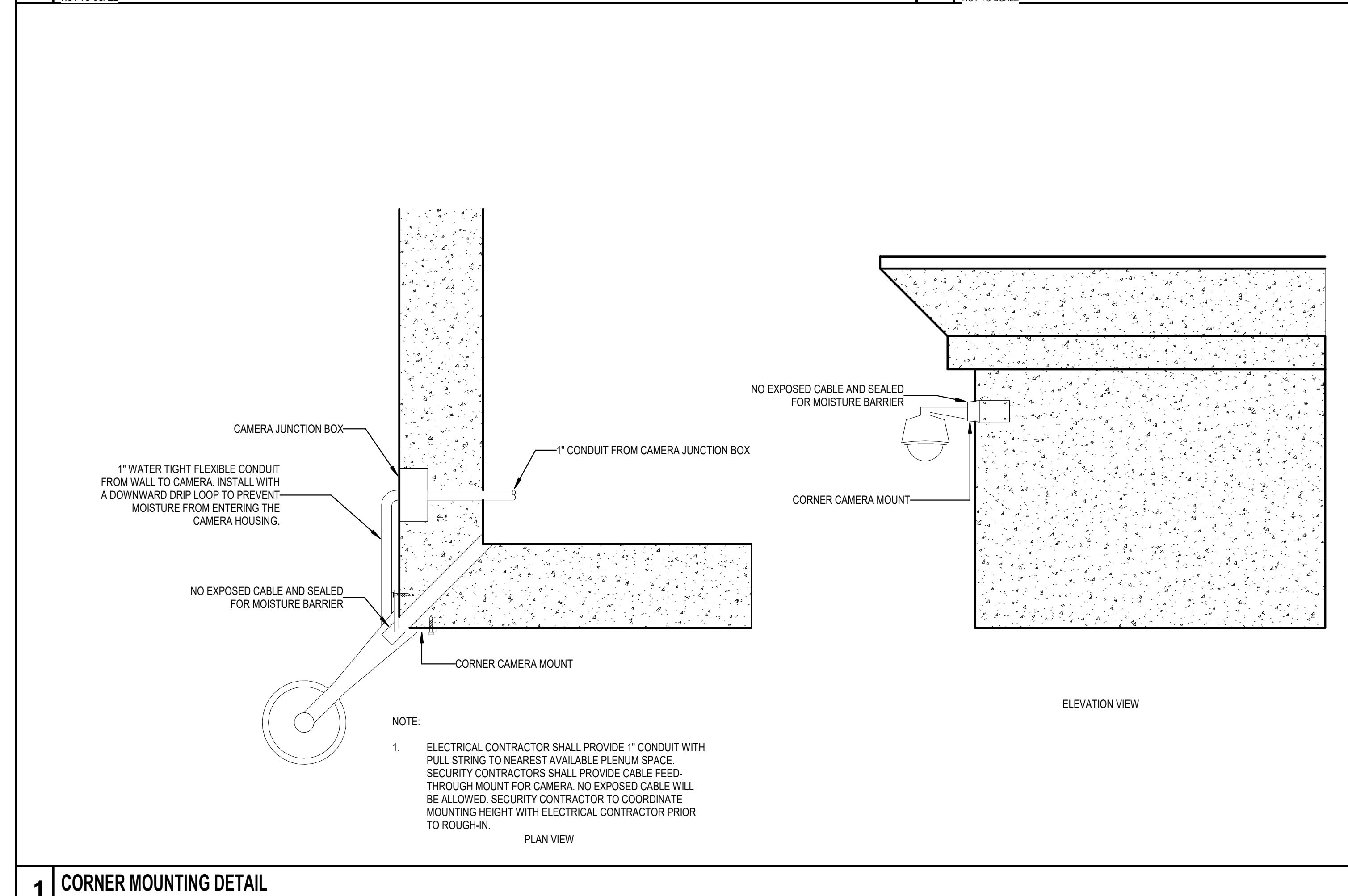
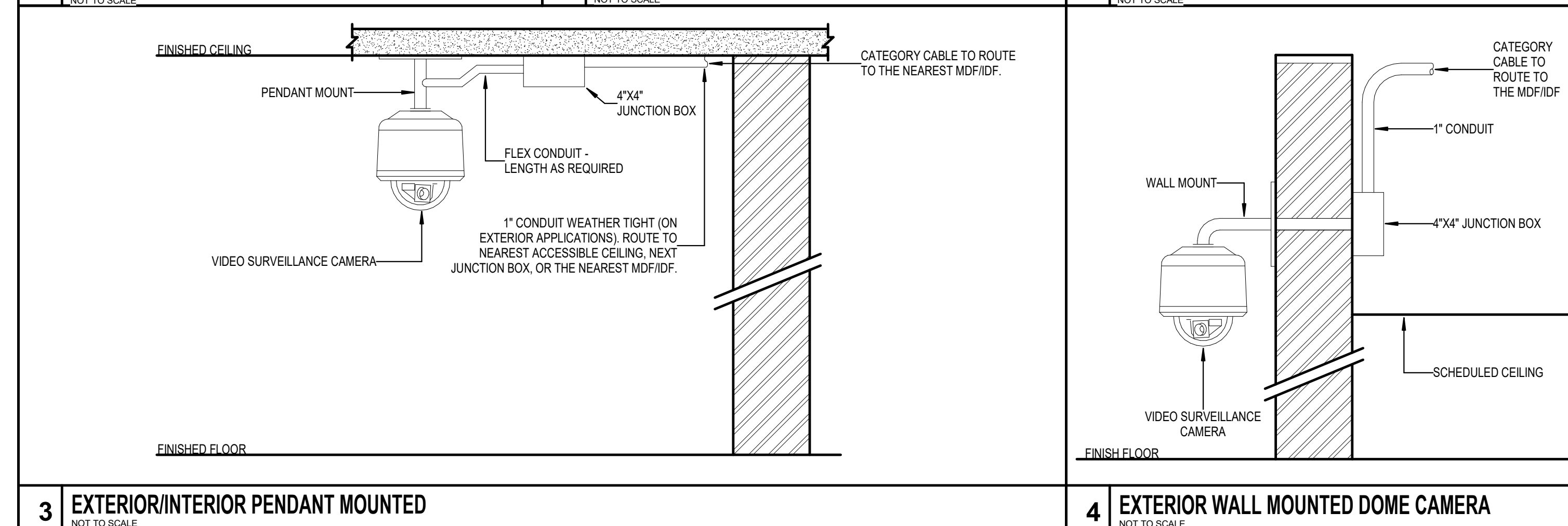
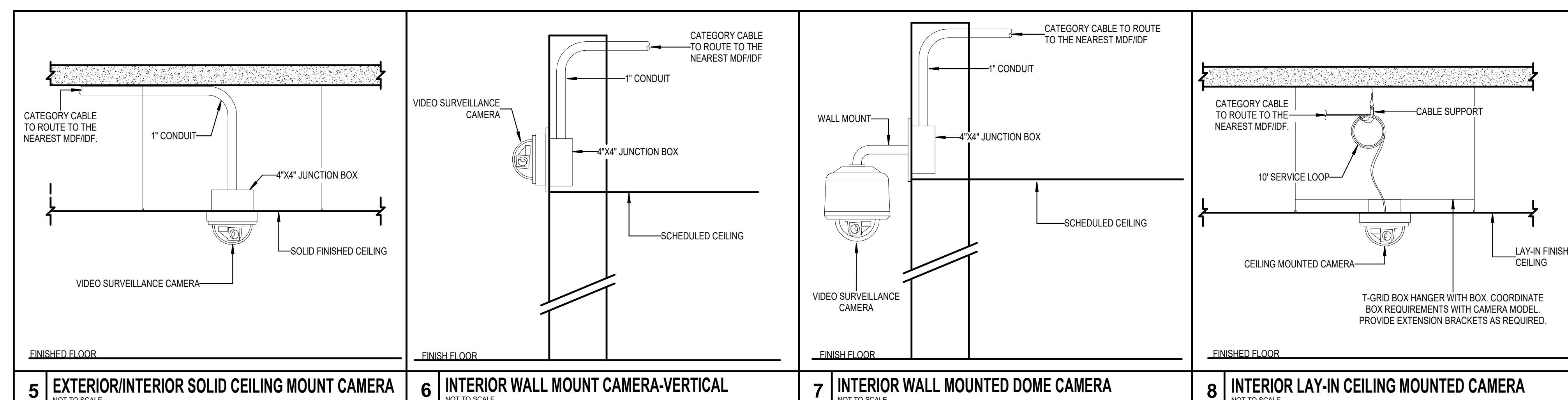
7 CABLE LABEL DETAIL  
NOT TO SCALE

**TISD INNOVATION CENTER  
BLDG.4 RENOVATION**

PROJECT #:	202415
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## T6.02

### SECURITY DETAILS





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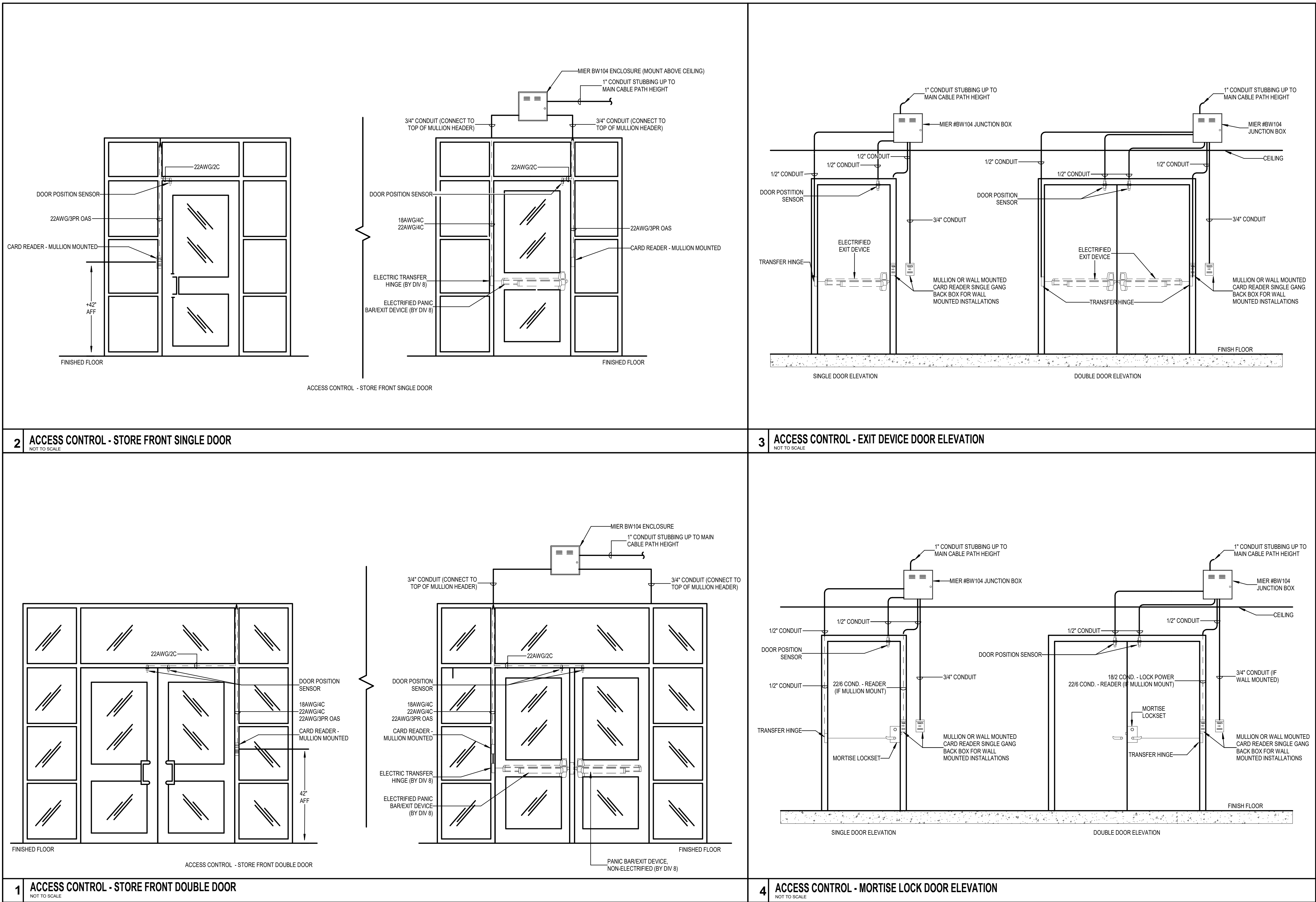
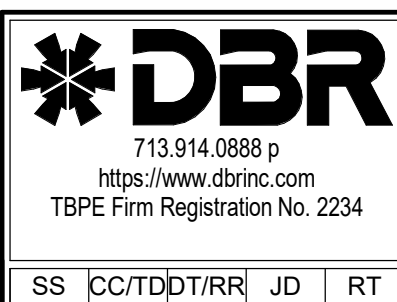
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PROJECT #: 202415  
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T6.03

SECURITY DOOR  
DETAILS



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T6.04  
SECURITY DOOR  
DETAILS

